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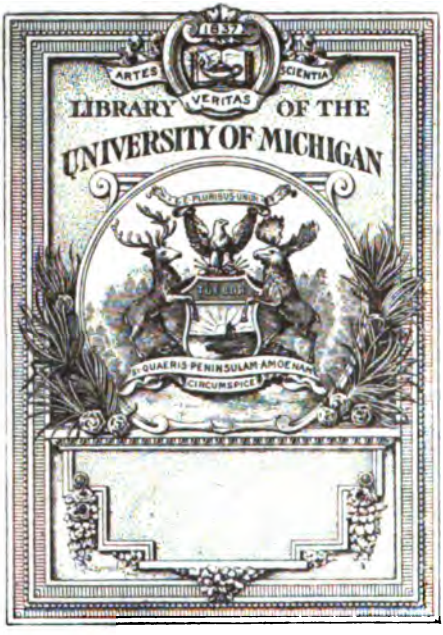
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THE
UNIVERSITY OF ILLINOIS
CATALOG



1900-1901

URBANA, ILLINOIS
PUBLISHED BY THE UNIVERSITY
1901

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Learning and Labor

CATALOG

OF THE

UNIVERSITY OF ILLINOIS

(POSTOFFICE, URBANA OR CHAMPAIGN, ILL.)

1900-1901

URBANA, ILLINOIS
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THE UNIVERSITY CALENDAR

1901-1902

Sept. 11, 1901 to Jan. 30, 1903.

FIRST SEMESTER

1901.	
Sept. 11, Wednesday.	Entrance Examinations begin.
Sept. 16, 17, Monday and Tuesday.	Registration Days.
Sept. 18, Wednesday.	Instruction begins.
Nov. 4, Monday.	Latest date for Announcing Subjects of Theses.
Nov. 28, Thursday.	Thanksgiving Day.
Dec. 21, Saturday.	Holiday Recess begins.
1902.	
Jan. 6, Monday.	Instruction resumed.
Jan. 31, Friday.	First Semester ends.

SECOND SEMESTER

Feb. 3, Monday.	Instruction begins.
May 14, 15, 16, Wednesday to Friday.	University High School Conference.
May 16, Friday evening.	Interscholastic Oratorical Contest.
May 15, 16, 17, Thursday to Saturday.	Public School Art Exhibit.
May 17, Saturday.	Interscholastic Athletic Meet.
May 26, Monday.	Hazelton Prize Drill.
May 27, Tuesday.	Competitive Drill.
May 30, Friday.	Latest Day for Acceptance of Theses.
June 8, Sunday.	Baccalaureate Address.
June 9, Monday.	Class Day.
June 10, Tuesday.	Alumni Day.
June 11, Wednesday.	Thirty-first Annual Commencement.

FIRST SEMESTER

Sept. 10, Wednesday.	Entrance Examinations begin.
Sept. 15, 16, Monday and Tuesday.	Registration Days.

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Sept. 17, Wednesday.	Instruction begins.
Nov. 3, Monday.	Latest date for Announcing Subjects of Theses.
Nov. 27, Thursday.	Thanksgiving Day.
Dec. 20, Saturday. 1903.	Holiday Recess begins.
Jan. 5, Monday.	Instruction resumed.
Jan. 30, Friday.	First Semester ends.

1901							1902																							
SEPTEMBER							JANUARY							MAY							SEPTEMBER									
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UNIVERSITY OF ILLINOIS

LOCATION

The University of Illinois is situated in Champaign County, in the eastern central part of the state between the cities of Champaign and Urbana, within the corporate limits of the latter. It is one hundred and twenty-eight miles south of Chicago, at the junction of the Illinois Central, the Cleveland, Cincinnati, Chicago and St. Louis, and the Wabash railroads. The country around is a rich and prosperous agricultural region. The cities of Urbana and Champaign have a combined population of about 15,000.

HISTORY

In 1862 the national government donated to each state in the Union public land scrip in quantity equal to 30,000 acres for each senator and representative in congress; "for the endowment, support, and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts * * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

On account of this grant the state pays the University, semi-annually, interest at the rate of five per cent. on about $535,000, and the University owns about 5,000 acres of unimproved land, worth, with deferred payments on land contracts, approximately, $75,000.

To secure the location of the University several counties entered into competition by proposing to donate to its use

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specified sums of money, or their equivalent. Champaign County offered a large brick building in the suburbs of Urbana, erected for a seminary and nearly completed, about 1,000 acres of land, and $100,000 in county bonds. To this the Illinois Central Railroad added $50,000 in freight. The General Assembly accepted this offer May 8, 1867.

The state has from time to time appropriated various sums for permanent improvements, as well as for maintenance. The present value of the entire property and assets is estimated at $1,900,000.

The institution was incorporated February 28, 1867, under the name of the Illinois Industrial University, and placed under the control of a Board of Trustees, constituted of the Governor, the Superintendent of Public Instruction and the President of the State Board of Agriculture, as *ex-officio* members, and twenty-eight citizens appointed by the Governor. The chief executive officer, usually called President, was styled Regent, and was made *ex officio* a member of the Board, and presiding officer both of the Board of Trustees and of the Faculty.

In 1873 the Board of Trustees was reorganized, the number of appointed members being reduced to nine and of *ex-officio* members to two—the Governor and the President of the State Board of Agriculture. In 1887 a law was passed making membership elective, at a general state election, restoring the Superintendent of Public Instruction as an *ex-officio* member. There are, therefore, now three *ex-officio* members and nine by public suffrage. Since 1873 the President of the Board has been chosen by the members from among their own number for a term of one year.

The University was opened to students March 2, 1868, when there were present, beside the Regent, three professors and about fifty students. During the first term another instructor was added, and the number of students increased to 77—all young men.

During the first term instruction was given in algebra, geometry, physics, history, rhetoric, and Latin. Work on

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the farm and gardens or about the buildings was at first compulsory for all students, but in March of the next year compulsory labor was discontinued, save when it was made to serve as a part of class instruction. A chemical laboratory was fitted up during the autumn of 1868. Botanical laboratory work began the following year. In January, 1870, a mechanical shop was fitted up with tools and machinery, and here was begun the *first shop instruction* given in any American university. During the summer of 1871 the Wood Shops and Testing Laboratory, burned June 9, 1900, was erected and equipped for students' shop work in both wood and iron.

By vote, March 9, 1870, the Trustees admitted women as students. During the year 1870-71 twenty-four availed themselves of the privilege. Since that time they have constituted from one-sixth to one-fifth of the total number of students.

By the original state law, instead of the usual diplomas and degrees, certificates showing the studies pursued and the attainments in each were given. The certificates proved unsatisfactory to the holders, and in 1877 the legislature gave the University authority to confer degrees.

In 1885 the legislature changed the name of the institution to the "University of Illinois."

During the same session of the legislature a bill was passed transferring the *State Laboratory of Natural History* from the Illinois State Normal University to the University of Illinois. This Laboratory was created by law for the purpose of making a natural history survey of the state, the results of which should be published in a series of bulletins and reports, and for the allied purpose of furnishing specimens illustrative of the flora and fauna of the state to the public schools and to the state museum. For these purposes direct appropriations are made by the legislature from session to session. A large amount of material has been collected, and extended publications have been made in both the forms above mentioned.

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By an act approved March 2, 1887, the national government appropriated $15,000 per annum to each state for the purpose of establishing and maintaining, in connection with the colleges founded upon the congressional act of 1862, agricultural experiment stations, "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." Under this provision the *Agricultural Experiment Station* for Illinois was placed under the direction of the Trustees of the University, and a part of the University farm, with buildings, was assigned for its use. At least one bulletin of results is published every three months, and the copies are gratuitously distributed over the state. Editions of 18,000 copies are now issued.

For the more complete endowment of the state institutions founded upon the act of 1862, the congress of the United States, by a supplementary law passed in 1890, made further appropriations. Under this enactment each such college or university received the first year $15,000, the second $16,000, and thereafter was to receive $1,000 per annum additional to the amount of the preceding year, until the amount reached $25,000, which sum was to be paid yearly thereafter.

The Chicago College of Pharmacy, founded in 1859, became the *School of Pharmacy of the University of Illinois* May 1, 1896. Its rooms are at 465 State Street, Chicago.

At the meeting of the Board of Trustees of the University held Dec. 8, 1896, upon recommendation of President Draper, the Trustees voted to take steps looking to the organization of a law school. Appropriations were made for salaries, for the purchase of books, and for incidental expenses. Pursuant to this action of the Board of Trustees, the *School of Law* was organized during the following spring and summer, and was opened Sept. 13, 1897. The course as originally planned covered two years, conforming

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to the existing requirements for admission to the bar in Illinois. The supreme court of the state, however, announced, in November following, rules covering examinations for admission to the bar which made three years of study necessary, and the course of study in the Law School was immediately rearranged on that basis. Feb. 9, 1900, the name was changed, by vote of the Board of Trustees, to *College of Law.*

Negotiations looking to the affiliation of the College of Physicians and Surgeons, of Chicago, with the University, which had been going on for several years, were concluded pursuant to action taken by the Board of Trustees upon definite propositions submitted by the College of Physicians and Surgeons to the Board at its meeting of March 9, 1897. According to the agreement made, the College of Physicians and Surgeons became on April 21, 1897, the *College of Medicine of the University of Illinois.* The College is located at 813 W. Harrison Street, Chicago.

At the meeting of the Board of Trustees held April 22, 1897, the matter of the appointment of a librarian was considered by the Board and referred to a committee. This action of the Board was taken with a view of bringing to the University the School of Library Economy, which had been established in 1893 at the Armour Institute of Technology, in Chicago, and of securing the Director of that school for librarian of the University library. These plans were carried out and the *State Library School* was opened at the University in September, 1897.

BUILDINGS AND GROUNDS

The land occupied by the University and its several departments embraces about 210 acres.

The *Chemical Laboratory* is a building 75 by 120 feet, and two stories high, with basement. It contains general laboratories for students, instructors' laboratories, lecture rooms, store rooms, scale rooms, and various apartments for special purposes.

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Engineering Hall has a frontage of 200 feet, a depth of 76 feet on the wings and 138 feet in the center. The first story contains the laboratories of the department of physics, the drafting seminary and one of the recitation rooms of the department of electrical engineering, and the masonry laboratories and instrument rooms of the department of civil engineering. The second story contains the lecture room and the preparation rooms of the department of physics, the recitation and drawing rooms, cabinets, and studies of the departments of civil and municipal engineering, and the main office of the department of electrical engineering. The third story contains the elementary laboratory of the department of physics, the drawing rooms, lecture rooms, cabinets, and studies of the mechanical departments, as well as the library, the office, and the faculty parlor. The fourth story is devoted to the department of architecture, and contains drawing and lecture rooms, cabinets, a photograph studio, and a blue-print laboratory.

The Wood Shops and Testing Laboratory was, in June, 1900, burned, and the work which was previously carried on in that building is now done largely in the basement of the Mechanical and Electrical Engineering Laboratory.

It is expected that a new building for this work will be ready for use by September, 1901.

The Metal Shops is a one-story brick building, 50 by 250 feet. It contains a lecture room, two office rooms, a machine shop, a foundry, and a forge shop. The machine shop is 48 by 140 feet. Power is supplied by a 20 H. P. electric motor. A three-ton traveling crane of 12 foot span covers the center of the floor for the entire length, extending over a covered driveway between the machine shop and foundry.

The Mechanical and Electrical Engineering Laboratory is a pressed brick building, two stories high, 100 feet long and 50 feet wide, with a one-story wing 90 feet long and 50 feet wide. There is also a basement under the main part, containing some special testing rooms, store rooms, and the toilet and wash rooms.

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The Central Heating Station is a brick building, 55 by 120 feet. It contains the apparatus used for heating the buildings on the campus. An annex contains the pump room and the stock room. The pipes of the heating system and the wires for power and light are carried from the Central Heating Station to the several buildings through brick tunnels 6½ feet high by 6 feet wide. The length of tunnel thus far constructed is 1,800 feet.

The Armory, 100 by 150 feet, in one grand hall, gives ample space for company and battalion maneuvers and for large audiences upon special occasions.

Natural History Hall is 134 by 94 feet, with basement, two main stories, and an attic. It is occupied by the departments of botany, zoölogy, physiology, mineralogy, and geology, for each of which there are laboratories, lecture rooms, and offices; it also contains the office and equipments of the State Laboratory of Natural History, and of the State Entomologist. There are six laboratory rooms on each of the main floors—sufficient altogether to accommodate two hundred students, besides offering abundant facilities for the private work of the instructors.

The Astronomical Observatory is in the form of the letter T, the stem of which extends toward the south. The equatorial room, surmounted by the dome, is at the intersection of the stem and bar of the T. Besides the equatorial room the Observatory contains four transit rooms, a clock room, a recitation room, a study, and dark rooms for photographic purposes.

University Hall occupies three sides of a quadrangle, measuring 214 feet in front and 122 feet upon the wings. It is devoted almost exclusively to class rooms.

The Library Building is 167 by 113 feet, with a tower 132 feet high. The main floor contains the reference room, the reading room, the conversation room, the Library School lecture room, and the delivery room, which opens into the second story of the book-stack. The second floor contains the Library School class room, three seminary rooms, the

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Bolter collection of insects, and the administrative offices of the University. The basement contains well lighted rooms, which are at present used for various purposes. The book-stack is a rear wing to the building, separated from the rest of it by a fireproof wall. The stack will eventually contain five stories, and will accommodate 150,000 volumes. At present but three stories are fitted with shelving.

The Agricultural Building has been recently completed at a cost of $150,000. It consists of four separate structures built around an open court and connected by corridors. The main building is 248 feet long, from 50 to 100 feet in depth and three stories high, and contains offices, class rooms, and laboratories for the departments of agronomy, animal husbandry, dairy husbandry, horticulture, and veterinary science; offices of the State Entomologist; the chemical laboratory of the Experiment Station; commodious administration rooms; an assembly room with a seating capacity of 500, and on each floor a fireproof vault for records. The other three buildings are each 45 by 116 feet and two stories high; one is for dairy manufactures, one for farm machinery, and one for veterinary science and stock judging. These buildings are of stone and brick, roofed with slate, and contain, all told, 113 rooms and a total floor space of nearly two acres. An adjacent glass structure serves the departments of agronomy and horticulture. There are, in addition to these buildings, a veterinary hall, four dwellings, three large barns, and a greenhouse.

THE GYMNASIUMS

The Men's Gymnasium, which occupied the second story of the Wood Shops and Testing Laboratory, was, last June, burned, and the gymnasium has since that time been quartered in the Armory. A special appropriation was made by the Board of Trustees with which a moderate amount of equipment was bought. It is expected that a new gymnasium will be ready for use by September, 1901.

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The Women's Gymnasium occupies very attractive quarters in Natural History Hall, and is fully equipped. The pastime grounds near by, in use through the year when the weather permits, have a sixteen-lap running track, eight tennis courts, two basket ball fields, and space for handball, hurdling, and other desirable amusements. Under suitable restrictions, at certain hours, the rooms are open for exercise to those who are not enrolled in the classes.

LABORATORIES

SCIENCE LABORATORIES*

The *botanical, geological, physiological, and zoölogical laboratories* are in Natural History Hall.

The *chemical laboratory* occupies the building of the same name, already described.

The *physical laboratory* is in Engineering Hall. It is provided with piers, a constant temperature room, and other conveniences for measurement work.

The *psychological laboratory,* in University Hall, is well provided with apparatus of many different kinds for use in experimental study, research, and instruction.

ENGINEERING LABORATORIES

The *cement laboratory* of the department of civil engineering occupies rooms in Engineering Hall.

The *electrical engineering laboratory* occupies space on three floors of the Mechanical and Electrical Engineering Laboratory.

The *mechanical engineering laboratory* occupies the rear wing of the Mechanical and Electrical Engineering Laboratory.

SPECIAL LABORATORIES FOR RESEARCH

The *chemical laboratory of the Agricultural Experiment Station* and the *student laboratory* for the study of fertility

*For a more detailed account of these laboratories, see under the appropriate College.

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are situated on the third floor of the Agricultural Building, as are also the *physical* and *bacteriological laboratories* for the examination of soils.

The laboratory rooms of the *State Laboratory of Natural History* are in Natural History Hall.

A *Biological Station,* equipped for field and experimental work in aquatic biology, is maintained on the Illinois River by the State Laboratory of Natural History. It has its separate staff, but is open to students of the University at all times, on application, and during the summer months to special students not connected with the University.

A *laboratory for sanitary water analysis* has been equipped with all necessary appliances, and chemical investigation of the water supplies of the state is carried on.

COLLECTIONS*

AGRICULTURAL

A large room in the Agricultural Building is devoted to the exhibition of the products of the industrial arts, especially of agriculture. Prominent among the agricultural specimens exhibited is an excellent collection of the subspecies and varieties of Indian corn. There is also a collection of small grains and of grasses; a collection of fibers in various states of manufacture, and a large collection illustrating the forestry of Illinois, Florida, and California. The exhibits made by the University at the Centennial and at the Cotton Exposition at New Orleans find a permanent abode here; large additions have also been made of materials received from the Columbian Exposition of 1893.

BOTANICAL

The herbarium contains nearly all the species of flowering plants indigenous to Illinois, including a complete set of grasses and sedges. The flora of North America is fairly

*For a more detailed account of the collections in the different departments, see the appropriate subject under each college.

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well represented, and a considerable collection of foreign species has been made. A collection of fungi includes a full set of those most injurious to other plants, causing rusts, smuts, molds, etc. A collection of wood specimens from two hundred species of North American trees well illustrates the varieties of native wood.

Plaster casts represent fruits of many of the leading varieties as well as interesting specimens of morphology, showing peculiarities of growth, effects of cross-fertilization, etc.

ENGINEERING

The following departments of the College of Engineering have made extensive and valuable collections, which will be found in rooms in Engineering Hall:

ARCHITECTURE

A large number of specimens of stone, bricks, terra cotta, sanitary fixtures, casts of moldings and of ornament have been accumulated, together with some excellent specimens of industrial arts, models of structures, working drawings of important buildings, 3,000 lantern slides, 20,000 plates and photographs, and an excellent working library.

CIVIL ENGINEERING

The civil engineering department has a large room containing samples of iron, steel, wood, brick, and stone; materials for roads and pavements; models of arches and trusses, one of the latter being full-sized details of an actual modern railroad bridge. The department also possesses a very large collection of photographs and blue-print working drawings of bridges, metal skeleton buildings, masonry structures, and standard railroad construction.

ELECTRICAL ENGINEERING

The department has a collection of samples illustrating standard practice in the industrial applications of electricity. There is also a rapidly growing collection of lantern slides, photographs, blue-prints, drawings, pamphlets, and other engineering data.

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MECHANICAL ENGINEERING

This department has among other things a partial set of Reuleaux models, together with models of valve gears, sections of steam pumps, injectors, valves, skeleton steam and water gauges, standard packings, steam-pipe coverings, and drop forgings. There are also fine examples of castings, perforated metal, defective boiler plates, and sets of drills, with numerous samples of oil, iron, and steel. A large number of working drawings from leading firms and from the United States Navy Department forms a valuable addition to the above collections.

GEOLOGICAL

Lithology is represented by type collections of rocks 5,500 specimens), arranged to illustrate Rosenbusch; from Voigt and Hochgesang, L. Eger, and A. Kranz; a type collection from Ward; 745 thin sections of rocks and minerals; a large number of ornamental building stones; a stratigraphic collection to illustrate Illinois geology, and a collection of Illinois soils (104).

The *mineralogical* collection is especially rich in rock-forming minerals, ores, and materials of economic value. It contains over 10,900 specimens carefully selected to meet the wants of the student, and 575 crystal models.

The *paleontological* collection (45,000 specimens) contains representative fossils from the entire geologic series. It embraces the private collections of A. H. Worthen (including 742 type specimens); Tyler McWhorter; Mr. Hertzer; 200 thin sections of corals; the Ward collection of casts, and a considerable number of special collections representing the fauna and flora of particular groups.

LIBRARY ECONOMY

A collection of books and pamphlets on library science, of library reports and catalogs, of mounted samples showing methods of administration in all departments, and of labor-saving devices and fittings has been made, and is arranged by

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the Dewey Decimal classification in the Library School seminary room.

ZOÖLOGICAL

The *zoölogical* collections have been specially selected and prepared to illustrate the courses of study in natural history, and to present a synoptical view of the zoölogy of the state.

The mounted mammals comprise an unusually large and instructive collection of the ruminants of our country, including male and female moose, elk, bison, deer, antelope, etc., and also several quadrumana, large carnivora and fur-bearing animals, numerous rodents, good representative marsupials, cetaceans, edentates, and monotremes. Fifty species of this class are represented by eighty specimens and all the orders, excepting the Proboscidea, are represented by mounted skeletons. There is also a series of dissections in alcohol, illustrating the comparative anatomy of the group.

The collection of mounted birds includes representatives of all the orders and families of North America, together with a number of characteristic tropical, Bornean, and New Zealand forms. The collection is practically complete for Illinois species. There is also a fine collection of the nests and eggs of Illinois birds. A series of several hundred unmounted skins is available for the practical study of species, and the internal anatomy is shown in alcoholic dissections, and in mounted skeletons of all the orders.

The cold-blooded vertebrates are represented by a series of mounted skins of the larger species, both terrestrial and marine; mounted skeletons of typical representatives of the principal groups; alcoholic specimens, both entire and dissected, and casts. The alcoholics include series of the reptiles, amphibians and fishes, the latter comprising about three hundred species. The dissections illustrate the internal anatomy of the principal groups. The casts represent about seventy-five species, nearly all fishes.

The Mollusca are illustrated by alcoholic specimens of

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all classes and orders, and dissections showing the internal anatomy of typical forms. There are several thousand shells belonging to seventeen hundred species. The collection of Illinois shells is fair but incomplete.

The collection of insects has been greatly extended and enriched by the Bolter Collection, donated to the University by the executors of the estate of the late Andreas Bolter, of Chicago, which now contains over 16,000 species, represented by about 120,000 specimens, named, labeled, and systematically arranged.

The lower invertebrates are represented by several hundred dried specimens and alcoholics, and by a large series of the famous Blaschka glass models.

The embryology of vertebrates and invertebrates is illustrated by several sets of Ziegler wax models, and numerous series of slides, sections, and other preparations.

In addition to the above, the extensive collections of the State Laboratory of Natural History are available for illustrative purposes, as well as for original investigation by advanced students.

ART GALLERY

The University art gallery was the gift of citizens of Champaign and Urbana. It occupies a room in the basement of Library Building, and furnishes an excellent collection of models for students of art. In sculpture it embraces thirteen full-size casts of celebrated statues, forty statues of reduced size and a large number of busts and bas-reliefs, making in all over four hundred pieces. It includes also hundreds of large autotypes, photographs, and fine engravings, representing many of the great masterpieces of painting of nearly all the modern schools, and a gallery of historical portraits, mostly large French lithographs, copied from the great national portrait galleries of France.

Other collections of special value to art students embrace a large number of casts of ornament from the Alhambra and other Spanish buildings, presented by the Spanish govern-

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ment; a set of casts from Germany, illustrating German renaissance ornament; a series of art works from the Columbian Exposition; large numbers of miscellaneous casts, models, prints, and drawings, such as are usually found in the best art schools, and a model in plaster and a complete set of drawings of a competitive design by Henry Lord Gay for a monument to be erected in Rome, commemorative of Victor Emmanuel, first king of Italy.

LIBRARY FACILITIES.

The *library* contains 46,000 volumes and 4,500 pamphlets. The reading room contains 544 periodicals. The library of the State Laboratory of Natural History and that of the Agricultural Experiment Station contain about 9,500 volumes and 11,000 pamphlets. The Pedagogical Library in the rooms occupied by the Department of Education consists of some 3,000 books and pamphlets. It is very full in modern text-books and contains the courses of study of nearly all the large city school systems. All these libraries are open to students of the University.

The Public Library of the City of Champaign has recently become the possessor of the valuable library of western history collected by the late Edward G. Mason, Esq., President of the Chicago Historical Society. The collection is thus made accessible to University students.

The library and the reading room are open every day, except Sunday, from 8 a. m. until 5 p. m., and from 6:30 p. m. until 9. p. m. on Mondays, Tuesdays, Wednesdays and Thursdays.

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ADMISSION

Applicants for admission to the freshman class must be at least sixteen years of age.

Entrance may be made at any time, provided the candidate is competent to take up the work of the classes then in progress; but it is better to begin upon the first collegiate day in September.

Admission to the freshman class of the University may be obtained in one of three ways: (a) by certificate from a fully accredited high school; (b) by examination; (c) by transfer of credits from some other college or university.

ADMISSION BY CERTIFICATE FROM ACCREDITED HIGH SCHOOLS

The University employs a high school visitor, whose business it is to inspect the high schools of the state. The University bears the expense of such inspection, but does not send the visitor to any school not already accredited until he receives from it a request for such visit and a report with regard to the work it is doing which shows that its course of study is such in quantity and quality as to be worth the time and attention of the University. After inspecting a school the visitor reports upon it to the Faculty of the University, and upon approval the school is added to the list of accredited schools. Students coming to the University from an accredited school are excused from entrance examinations in those subjects which they have pursued there satisfactorily and which are accepted for admission to the University. The University accredits all work which is sufficiently well done. The schools in the list below are therefore not all accredited for the same amount and kind of work.

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In all subjects required for admission to the University, other than those for which his school is accredited, the candidate for admission must pass an examination or take the work in the Preparatory School of the University.

Candidates for admission from accredited schools must file with the Registrar, upon entrance, a certificate of graduation and a certified list of the preparatory studies for which they received credit in the high school. Blanks for these certificates must be obtained from the Registrar in advance, and it is better to forward them to him for approval before registration days.

LIST OF ACCREDITED SCHOOLS.

SCHOOL	SUPERINTENDENT	PRINCIPAL
Aledo	J. W. Collins	F. N. Taylor
Alton	R. A. Haight	J. E. Turner
Amboy	F. W. Dunlap	F. G. Fox
Anna	A. L. Bliss	J. O. Marberry
Arcola	H. T. Wilson	Anna Rogers
Atlanta	H. H. Edmunds	Amelia Hochstein
Augusta	S. D. Faris	J. A. Mead
Aurora (East)	C. M. Bardwell	W. C. Hazzard
Aurora (West)	A. V. Greenman	Katherine Reynolds
Beardstown	S. S. Beggs	H. J. Jockisch
Belleville	H. D. Updike	H. W. Brua
Belvidere (North)	Arthur J. Snyder	Flora Fellows
Belvidere (South)	Montgomery Moore	Carrie Lindley
Bement	C. H. Andrews	Noah Young
Biggsville	(Township High School)	J. A. Strong
Bloomington	E. M. Van Petten	E. L. Boyer
Blue Island	(Township High School)	J. E. Lemon
Burlington, Ia.	Francis M. Fultz	Maurice Ricker
Bushnell	W. H. H. Miller	Flora Culp
Cairo	T. C. Clendenen	John Snyder
Cambridge	A. J. Magee	Caroline Maul
Camp Point	W. W. Wirt	Alice Durston
Canton	C. S. Aldrich	C. S. Aldrich
Carlinville	J. E. Wooters	Anna Horine
Carlyle	E. E. VanCleve	W. H. Pyle
Carrollton	E. A. Thornhill	E. A. Thornhill
Carthage	W. K. Hill	Emma J. Bell

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School	Superintendent	Principal
Casey	H. L. Smith	R. A. White
Centralia	J. L. Hughes	S. H. Bohn
Champaign	Joseph Carter	Lottie Switzer
Charleston	J. K. Stableton	Wm. Wallis
Chicago—		
Austin	E. G. Cooley	Geo. H. Rockwood
Calumet	"	A. S. Hall
Englewood	"	J. E. Armstrong
English High and Manual Training	"	A. R. Robinson
Hyde Park	"	Chas. W. French
Jefferson	"	Chas. A. Cook
Lake	"	E. F. Stearns
Lake View	"	B. F. Buck
Marshall	"	L. J. Block
Medill	"	E. C. Rosseter
North Division	"	O. S. Wescott
Northwest Division	"	F. P. Fisk
South Chicago	"	C. I. Parker
South Division	"	Spencer R. Smith
West Division	"	G. M. Clayberg
Chicago Heights	(Township High School)	F. W. Schacht
Chicago Manual Training. H. H. Belfield, Director		
Chillicothe	H. M. Anderson	Kate Scarry
Chrisman	J. C. Arnold	M. L. Mohler
Clinton	E. B. Bentley	Jennie N. Good
Clinton, Ia.	O. P. Bostwick	O. H. Brainerd
Clyde	(Township High School)	H. V. Church
Cobden	J. H. Jenkins	J. H. Jenkins
Colfax	F. C. Prowdley	Edna Byers
Covington, Ind.	W. P. Hart	James F. Millis
Danville	L. H. Griffith	B. A. Sweet
Davenport, Ia.	J. B. Young	W. D. Wells
Decatur	E. A. Gastman	Frank Hamsher
DeKalb	N. D. Gilbert	Chas. E. Skinner
Delavan	F. L. Calkins	Stella Hoghton
Dixon (North)	H. V. Baldwin	Lydia Williamson
Dixon (South)	Chas. W. Groves	B. F. Bullard
Downer's Grove	O. M. Searles	Mabel Messner
Dubuque, Ia.	F. T. Oldt	J. S. Lochmann
Dundee	Julia M. Gay	Carrie M. Watson
DuQuoin	D. B. Rawlins	C. W. Houk

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School	Superintendent	Principal
Dwight	G. W. Horton	Leila Britt
East St. Louis	John Richeson	C. L. Manners
Edwardsville	C. W. Parkinson	A. S. Boucher
Effingham	J. D. Foucht	S. W. Kincaid
Elgin	M. A. Whitney	E. J. Kelsey
Elgin Academy		George N. Sleight
Elmhurst Evangelical Proseminar		D. Irion, President
Elmwood	L. E. Flanegin	Martha Gordon
Evanston	(Township High School)	H. L. Boltwood
Evansville, Ind.	W. A. Hester	Robert Spear
Farmer City	C. C. Covey	James Raibourn
Farmington	H. L. Roberts	Maude F. Tabor
Flora	H. C. Chaffin	J. N. Stephens
Freeport	R. S. Page	S. E. Raines
Fulton	M. A. Kline	Mary Conrath
Galena	J. W. Cupples	J. W. Cupples
Galesburg	W. L. Steele	F. D. Thomson
Galva	F. U. White	Hedwig M. Maul
Geneseo	A. W. Hussey	G. A. Ketcham
Gibson City	A. P. Johnson	H. M. Rudolph
Gilman	L. W. Haviland	Henrietta Kortkamp
Girard	F. E. Kennedy	Thomas E. Moore
Grand Prairie Seminary (Onarga)		O. T. Dwinell
Greenfield	H. G. Russell	Mrs. H. G. Russell
Greenville	M. G. Clark	Chas. F. Ford
Griggsville	H. C. McCarrel	Nora Simmons
Harvard	J. S. Brazier	Margaret Calvin
Harvey	(Township High School)	J. E. Cable
Havana	J. R. Sparks	Mrs. S. E. Pierce
Henry	Wm. Calhoun	Golda R. Coley
Highland Park	(Township High School)	W. A. Wilson
Hillsboro	S. T. Robinson	W. S. Harris
Hinsdale	J. M. Frost	Mary Macnair
Hoopeston	S. A. D. Harry	Chas. F. Briscoe
Jacksonville	J. W. Henninger	H. S. Weston
Jerseyville	J. Pike	E. B. Shafer
Joliet	(Township High School)	J. Stanley Brown
Kankakee	F. N. Tracy	I. E. Neff
Keokuk, Ia.	O. W. Weyer	A. A. Reed
Kewanee	A. C. Butler	Allen C. Rearick
Lacon	D. B. Burrows	Della Murch
La Grange	(Township High School)	E. R. Cole

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School	Superintendent	Principal
Lanark	E. S. Hady	Mary Strickler
La Salle	(Township High School)	Chas. A. Farnam
Le Roy	C. J. Posey	Flora M. Grady
Lewistown	B. C. Moore	Estelle Jones
Lexington	R. G. Jones	Lillian Barton
Lincoln	B. E. Nelson	Jennie Kidd
Litchfield	R. C. Shelenbarger	O. W. Hoffman
Lockport	J. E. Hooton	Paul E. Prutsman
Macomb	R. C. Rennick	R. C. Rennick
Marengo	G. N. Snapp	Lillian Wherry
Marion	J. W. Asbury	F. M. Beaty
Marseilles	F. M. Kline	J. W. Maybee
Marshall	L. A. Wallace	Fannie Andrews
Mattoon	J. J. Wilkinson	Will A. Marlow
McLeansboro	J. W. Barrow	A. T. Bell
Mendota (East)	W. R. Foster	Evangeline Chowning
Mendota (West)	G. C. Griswold	Myra Howes
Metropolis	Edward Longbons	Clarence Bonnel
Minonk	E. L. Mills	Clara Mueller
Moline	W. J. Cox	W. H. Heil
Monmouth	J. C. Burns	E. Sturtevant
Monticello	J. E. Webb	Harry Pierson
Morris	P. K. Cross	Edith Post
Morrison	M. M. Warner	Mrs. P. F. Burtch
Mount Carmel	W. S. Booth	Kate Marsh
Mount Carroll	Ida M. Griggs	Mrs. Lillian Deming
Mount Morris College (Preparatory)	J. G. Royer, President	
Mount Pulaski	G. B. Coffman	Clyde Capron
Mount Vernon	H. J. Alvis	Inez I. Greene
Murphysboro	(Township High School)	Ellis H. Rogers
Nashville	Albert G. Owen	H. G. Larsh
Newton	E. B. Brooks	Electa Ranson
Nokomis	H. C. Miller	Charlotte Holmes
Normal	E. A. Fritter	Charles Rice
North Park College (Chicago)	D. Nyvall, President	
Oak Park	(Township High School)	C. J. Hanna
Odell	L. T. Earnheart	Pearle L. Ballard
Olney	G. D. Wham	John D. Gilbert
Onarga	G. E. Marker	Jessie Duke
Oregon	W. J. Sutherland	Adalaide M. Steele
Ottawa	(Township High School)	J. O. Leslie
Pana	Wm. Miner	A. E. Paine

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School	Superintendent	Principal
Paris	J. D. Shoop	A. F. Lyle
Paxton	O. J. Bainum	J. E. McKown
Pecatonica	C. H. Ferguson	Grace Warner
Pekin	O. A. Schotts	Elizabeth Chapman
Peoria	N. C. Dougherty	A. W. Beasley
Pittsfield	W. R. Hatfield	Angie F. Wood
Plano	J. R. Freebern	Julia Patton
Polo	S. M. Abbott	Mabel Dempster
Pontiac	(Township High School)	J. E. Bangs
Princeton	(Township High School)	D. O. Barto
Quincy	A. A. Seehorn	W. F. Geiger
Ridge Farm	A. L. Starr	J. A. Graham
Riverside	A. F. Ames	Joel A. Harley
Robinson	M. N. Beeman	O. R. Hedden
Rochelle	C. F. Philbrook	Kate C. Rising
Rockford	P. R. Walker	B. D. Parker
Rock Island	H. B. Hayden	J. F. Darby
Rossville	I. A. Smothers	Frank McAnally
Rushville	N. T. Veatch	Florence Young
St. Charles	C. E. Mann	Gertrude Webster
St. Louis, Mo.	F. L. Soldan	W. J. S. Bryan
Salem	S. J. Curlee	Laura E. Meyers
Sandwich	W. W. Woodbury	Lillian Purkhiser
Savanna	W. S. Wallace	Helen Hay
Sheffield	J. B. Cleveland	H. A. Parkin
Shelbyville	G. P. Randle	R. J. Roberts
Southern Collegiate Institute (Albion)		Frank B. Hines
Sparta	S. B. Hood	L. J. Sexton
Springfield	J. H. Collins	L. M. Castle
Sterling	(Township High School)	O. L. Miller
Streator	(Township High School)	S. B. Hursh
Sullivan	E. Allen Cross	Hugh A. Bone
Sycamore	J. N. Adee	Mrs. S. E. Robinson
Taylorville	(Township High School)	W. E. Andrews
Terre Haute, Ind.	William Wiley	Charles Meek
Toulon Academy		Lewis A. Morrow
Tuscola	George F. Arps	W. D. Higdon
Urbana	J. W. Hays	J. W. Hays
Vandalia	J. N. Street	J. M. Hutchinson
Vienna	M. N. McCartney	G. H. Campbell
Virden	M. J. Loveless	G. W. Bohannan
Warren	B. F. Baker	Olivette M. Buser

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School	Superintendent	Principal
Warren Academy		A. Beede
Washington	J. W. Hesler	Abbie L. Ross
Watseka	E. J. Blake	Mayme Goodale
Waukegan	W. F. Cramer	W. J. Stebbins
Waverly	S. S. Simpson	Mary Laycock
Wenona	George W. Reid	Simeon E. Boomer
Western Military Academy (Upper Alton)		A. M. Jackson
Wheaton	J. B. Russell	Nellie M. Lloyd
Whitehall	C. E. Joiner	Carl Vertrees
Wilmington	F. M. Crosby	Helen Buss
Winchester	H. D. Willard	Myrtle F. Ballard
Woodstock	C. W. Hart	Grace Francisco
Wyoming	J. B. Wallace	Rae Baldwin
Yorkville	O. R. Zoll	Nannie L. Hill

ADMISSION BY EXAMINATION

Examinations of candidates for admission to the University are held at the University in September (see program, p. 56). Each candidate must be in attendance during the whole period of the examinations.

The scholarship examinations,* held each year on the first Saturday in June, in the several counties of the state, afford an opportunity to pass a part of the entrance examinations before coming to the University.

The subjects upon which the entrance examinations are held are described below.

When text-books are named it is merely to aid in showing the requirements. Equivalents are accepted.

In all cases 36 credits are required, the term credit meaning the work in one subject continuously pursued, with daily recitations, through one of the three terms of the high school year; or, in other words, the work of sixty recitation periods of forty minutes each, or the equivalent in laboratory or other practice. Of these 36 credits, 28 must be obtained by all candidates in the subjects, and according to the valuation, stated in the prescribed list given below. The remainder of the 36 may be made up by offerings in any of

*See State Scholarships.

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the subjects in the elective list given below, with the following restrictions and provisions:

1. No offering will be accepted in any one of these elective subjects unless at least equal in quantity to the minimum specified in the table. For example: Astronomy is listed for from 1 to 1½ credits. Nothing less than one term's work, that is, one credit, will be accepted, therefore, in that subject.

2. Those who wish to enter upon the courses leading to the degree of bachelor of arts must offer at least three credits in some one foreign language, chosen from among the electives, in addition to the language chosen from among the prescribed subjects in the first list. The language from the elective list may or may not be the same as that offered in the prescribed list. Those who wish to pursue the study of Latin in the University must, however, offer nine credits in Latin.

3. Those who wish to enter upon the courses leading to the degree of bachelor of science, in any line of study except agriculture, must offer solid and spherical geometry among their electives.

4. For entrance upon the agricultural courses leading to the degree of bachelor of science, *any* six credits from the elective list will be accepted instead of the six credits in foreign language; but at least two years of foreign language study in the University must be taken by those who make this option.

The amount of work in each subject which, in the judgment of the University authorities, corresponds to the minimum number of credits assigned is shown by the description of subjects below.

SUBJECTS ACCEPTED FOR ADMISSION, WITH CREDITS

Prescribed

Algebra ..... 4 credits
English Composition ..... 3 credits
English Literature ..... 6 credits

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French, or German, or Greek, or Latin*	6 credits
Plane Geometry	3 credits
History	3 credits
Physical or Biological Science	3 credits

Elective

Astronomy	1	to 1½	credits
Botany	1½	to 3	credits
Chemistry	2	to 3	credits
Civics	1	to 3	credits
Drawing	1	to 3	credits
French	3	to 9	credits
Geology	1½	to 3	credits
Geometry, Solid and Spherical		1	credit
German	3	to 9	credits
Greek	3	to 7	credits
History		3	credits
Latin	3	to 12	credits
Manual Training	1	to 2	credits
Physics		3	credits
Physiography	1½	to 3	credits
Physiology	1	to 3	credits
Zoölogy	1½	to 3	credits

DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. ASTRONOMY.—To obtain a single credit for entrance in astronomy, the student must pass an examination covering as much text-book work as is contained in any good text. For 1½ credits, the entrance requirement implies, in addition to the above, some degree of practical familiarity with the geography of the heavens, with the various celestial motions, and with the positions of some of the more conspicuous naked-eye heavenly bodies.

3. BOTANY.—A familiar acquaintance is required with the general structure of plants, and of the principal organs and their functions, derived to a considerable extent from a study of the objects; also a general knowledge of the main groups of plants, and the ability to classify and name the more common species. Laboratory note-books and herbarium collections must be presented.

4. CHEMISTRY.—The instruction must include both text-book and laboratory work. The work should be so arranged that at least

*But see par. 4 above.

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one-half of the time shall be given to the laboratory. The course, as it is given in the best high schools in two terms or three terms, respectively, will satisfy the requirements of the University for the two credits or three credits for admission. The laboratory notes, bearing the teacher's indorsement, must be presented in evidence of the actual laboratory work accomplished. Candidates for admission may be required to demonstrate their ability by laboratory tests.

5. CIVICS.—Such amount of study on the United States constitution, its history and interpretation, as is indicated by any of the usual high school text-books on civil government, is regarded as sufficient for one term. The work may advantageously be combined with the elements of political economy, or, better, the industrial history of the country.

6. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each to test his ability to use the English language.

7. DRAWING.—Free-hand or mathematical drawing, or both. Drawing-books or plates must be submitted. The number of credits allowed depends on the quantity and quality of the work submitted.

8. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next three years are as follows:

1901.—George Eliot's Silas Marner; Pope's Iliad, Books I., VI., XXII., and XXIV.; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Cooper's Last of the Mohicans; Tennyson's Princess; Shakespere's Merchant of Venice; Scott's Ivanhoe.

1902.—The same as 1901.

1903.—The Sir Roger de Coverley Papers; Carlyle's Essay on Burns; Coleridge's Ancient Mariner; Eliot's Silas Marner; Goldsmith's Vicar of Wakefield; Lowell's Vision of Sir Launfal; Scott's Ivanhoe; Shakspere's Merchant of Venice; Shakspere's Julius Cæsar; Tennyson's Princess.

(b) In addition to the above the candidate will be required to present a careful study of the history of either English or American Literature.

(c) The candidate will be examined on the form and substance

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of one or more books, in addition to those named under (a). For 1901, 1902 and 1903 the books will be selected from the list below. The examination will be of such a character as to require a minute and thorough study of each of the works named, in order to pass it successfully.

Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

Two years of high school work, with five recitations a week, will be necessary for the above preparation.

9. FRENCH.—*One year's work.*—The candidate must have a thorough knowledge of elementary grammar and the irregular verbs; must be able to pronounce correctly, and to translate simple spoken French phrases. He must have read some 300 pages of easy prose, including one modern comedy, and must be able to translate ordinary French prose at sight.

Two years' work.—In addition to the above, the candidate must show proficiency in advanced grammar, the essentials of syntax, and elementary composition. The reading of not less than 400 pages of standard authors, including two plays of Molière, is required, and the memorizing of not less than six fables or anecdotes.

Three years' work.—In addition to what has already been described, the candidate must have had further work in composition, and must have memorized not less than six poems or anecdotes. He must further have read not less than 500 pages of standard authors, including Molière, La Fontaine, and Hugo. Some acquaintance with modern lyrics is necessary.

10. GEOLOGY.—Familiarity with the matter found in Scott's Introduction to Geology, or a real equivalent. The student must be able to recognize well-marked types of crystalline and fragmental rocks, and to explain the origin of the topography of the region in which he lives. Additional laboratory and field work will be given such credit as it merits.

11. GEOMETRY.—(a) *Plane Geometry,* which must include a thorough knowledge of the fundamental definitions and axioms of the Euclidian geometry, together with the propositions relating to lines, circles, theory of proportion and its application to similar polygons, and the special properties of regular polygons and of circles. Special emphasis is placed upon the ability to use these propositions in the solution of original numerical exercises and of supplementary theorems.

(b) *Solid Geometry,* covering the propositions relating to lines and planes in space, polyhedrons, cylinders, cones, and spheres, with their applications to the solution of original exercises.

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12. GERMAN.—*One year's work.*—Elementary grammar, especially declension of articles and ordinary nouns and pronouns, use of the strong and the weak adjective, the two conjugations of verbs, with the principal parts and meanings of all the strong verbs, separable and inseparable prefixes, the use of common prepositions, the inverted and transposed sentence order. Practice in writing German sentences should accompany this work throughout the course, but the German script is not insisted upon. Besides the work in grammar, the student should read not less than 150 pages of easy narrative, or descriptive prose, giving careful attention to its translation into good English.

Two years' work.—In addition to the work outlined under the one year's requirement, the pupil should know the syntax of cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and of participial constructions. The translation into German of about thirty-five pages of narrative prose should insure ready application of grammatical principles. As an additional reading requirement, from 250 to 300 pages, including one of Schiller's historical dramas, and about thirty pages of German lyrics, should be translated. Constant practice in reading German should secure an accurate pronunciation and a feeling of the rhythm and rhetorical form of the works studied.

Three years' work.—The third year's study should aim to secure an easy reading knowledge of the language. Accurate and idiomatic translations into English, constant practice in sight translation and in writing from dictation should be insisted upon. Standard prose of the grade represented by Heine, Freytag, or Dahn, not less than 100 pages, should be read, together with selections from classic poetry. Lessing's Minna von Barnhelm and Goethe's Egmont or Iphigenie auf Tauris are especially recommended. Additional work in prose composition, or in the writing of paraphrases of the texts read, should insure the ability to write simple German.

13. GREEK.—To obtain three credits, the exercises in any of the beginning books, and one book of the Anabasis, or its equivalent, must be offered. For six credits, two books of the Anabasis and three of Homer, or their equivalents, additional to the above, must be presented, together with an amount of Greek prose composition equal to one exercise a week for one year.

14. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The History of Greece and Rome. The statement of requirements in each subject implies the use of a substantial text-book, together with some elementary training in the

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use of reference books. The one-year course in General History will, for the present, be counted for entrance credit, but is not recommended. If but one year can be given to History, it is recommended that that year be devoted to the History of England and of the United States. Three additional credits may be given for a second year of more advanced work in any of the three subjects named above. When two years can be given to History, it is recommended that the subjects taken be the History of Greece and Rome followed by the History of England and of the United States.

15. LATIN.—*First year's work.*—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories.

Second year's work.—Four books of Cæsar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

Third year's work.—Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

Fourth year's work.—The scansion of hexameter verse, six books of Vergil, with history and mythology.

16. MANUAL TRAINING.—Experience in the use of wood-working tools will be required. Forge, foundry, or machine work may be substituted for wood work. The number of credits allowed will depend upon the time spent upon the subjects and the technical knowledge obtained.

17. PHYSICAL OR BIOLOGICAL SCIENCE.—For this there may be offered any one of the following subjects or combination of subjects: Physics, one year; chemistry, one year; botany and zoölogy, each a half year.

The subjects must be taught in part by laboratory methods and the pupil's note-books must be submitted. Other evidences of work done, as illustrative drawings, collections of specimens, etc., should be presented. Examinations cover the subject-matter as presented in text-books in most common use in high schools. See also the descriptions given under the several subjects.

18. PHYSICS.—The elements of physical science as presented in such text-books as Appleton's School Physics, or Avery's Elements of Natural Philosophy, or Carhart and Chute's Elements of Physics, or Gage's Elements of Physics. The candidate must have had laboratory practice equivalent to that described in the laboratory text-books of Hall and Bergen, Allen, or Chute. The candidate's laboratory note-book will be accepted as part of the examination.

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19. PHYSIOGRAPHY.—The amount and character of the work required for the minimum credit may be seen by referring to Mill's Realm of Nature, or Davis's Physical Geography.

For additional credits, the principles of climatology, ability to read physical and contour maps, interpretation of weather maps, and forecasting of weather, etc., will be considered.

20. PHYSIOLOGY.—For one credit are required the anatomy, histology, and physiology of the human body and the essentials of hygiene, taught with the aid of charts and models to the extent given in Martin's Human Body (Briefer Course). For more than one credit, the course must have included practical laboratory work on the part of the student. The number of credits, beyond one, will be determined in each case according to the quantity and quality of the work.

21. ZOÖLOGY.—The instruction must include laboratory work equivalent to four periods a week for a half year besides the time required for text-book and recitation work. When the examination is taken, note-books and drawings must be presented which shall show the character of work done and the types of animals studied. The drawings are to be made from the objects themselves and not copied from illustrations, and the notes are to be a record of the student's own observation on the animals examined. The amount of equipment and character of surroundings must, of course, determine the nature of the work done and the kind of animals studied, but in any case the student should have at least a fairly accurate knowledge of the external anatomy of each of eight or ten animals distributed among several of the larger divisions of the animal kingdom, and should know something of their life histories and of their more obvious adaptations to environment. It is recommended that especial attention be given to such facts as can be gained from a careful study of the living animal. The names of the largest divisions of the animal kingdom with their most important distinguishing characters and illustrative examples, selected when practicable from familiar forms, ought also to be known.

PROGRAM OF EXAMINATIONS, SEPTEMBER 11-14, 1901

All persons who wish to enter the University in September, 1901, except those holding certificates of graduation from accredited schools and scholarship certificates, and those for whom a transfer of all entrance credits from some other college or university has already been approved, must present themselves at the Registrar's office, Library Hall,

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at 9 o'clock a. m., Wednesday, September 11th. At that time applications for admission will be received, and applicants will be given all necessary directions as to examinations.

The program of examinations is as follows:

Chemistry, 2 or 3 credits	Wednesday	9:50 a. m.
Geology, 2 or 3 credits	Wednesday	9:50 a. m.
Astronomy, 1 or 1½ credits	Wednesday	11:10 a. m.
History, 3 or 6 credits	Wednesday	12:50 p. m.
Physiography, 1½ or 3 credits	Wednesday	3:20 p. m.
English Literature, 6 credits	Thursday	7:50 a. m.
English Composition, 3 credits	Thursday	10:20 a. m.
Latin, 3 or 6 credits	Thursday	12:50 p. m.
Physics, 3 credits	Thursday	3:50 p. m.
Algebra, 4 credits	Friday	7:50 a. m.
Civics, 1 to 3 credits	Friday	10:20 a. m.
Geometry, Plane, 3 credits	Friday	12:50 p. m.
Geometry, Solid, 1 credit	Friday	2:35 p. m.
Physiology, 1 to 3 credits	Friday	3:20 p. m.
German, 3 or 6 credits	Saturday	7:50 a. m.
French, 3 or 6 credits	Saturday	7:50 a. m.
German, credits 7 to 9	Saturday	10:20 a. m.
French, credits 7 to 9	Saturday	10:20 a. m.
Latin, credits 7 to 12	Saturday	12:50 p. m.
Botany, 1½ to 3 credits	Saturday	12:50 p. m.
Biology, 3 to 6 credits	Saturday	12:50 p. m.
Zoölogy, 1½ to 3 credits	Saturday	3:20 p. m.

The time for examinations in Free Hand Drawing and in Manual Training will be arranged with candidates.

ADMISSION BY TRANSFER FROM OTHER COLLEGES AND UNIVERSITIES

A person who has entered another college or university of recognized standing will be admitted to this University upon presenting a certificate of honorable dismissal from the institution from which he comes and an official statement of the subjects upon which he was admitted to such institution, provided it appears that the subjects are those required here for admission by examination, or real equivalents. Candidates, to enter the University in this way, should submit such papers to the Registrar before the time of entrance, so that all doubtful points may be cleared up in advance.

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ADMISSION AS SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, may be admitted to classes, after satisfying the President and the professor in charge of the department in which such classes are taught, that they possess the requisite information and ability to pursue profitably, as special students, the chosen subjects. Such students are not matriculated; they pay a tuition fee of seven dollars and a half a semester, in addition to the regular incidental fee of twelve dollars.

In the College of Agriculture special students may be received at sixteen years of age subject to the same conditions as other special students, except that they may hold scholarships in agriculture (p. 286).

ADMISSION TO ADVANCED STANDING

After satisfying in some of the ways already enumerated all the entrance requirements for admission to the University, and after matriculating, the applicant for advanced standing may secure such standing either by examination or by transfer of credits from some other college or university.

1. *By Examination.*—Candidates for advanced standing, not from other colleges or universities, may secure such standing on examination. In the case of freshman students seeking advanced standing on the basis of their preparatory work, such standing shall be granted after satisfactory examination only, unless the applicants are from fully accredited schools. In that case a transfer of credits may be made as provided below.

2. *By Transfer of Credits.*—Credits from other colleges or universities may be accepted by the Faculty for advanced standing; but at least one year's work in residence at the University is required of all candidates for a bachelor's degree.

In all cases a certificate of honorable dismissal is required, together with a certified record of work done in the institution from which the applicant comes. These should be

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presented for approval some time before the student enters for work.

Upon approval of the Faculty freshmen may receive credit for advanced work done in fully accredited high schools.

REGISTRATION

At the beginning of the first semester each student must present himself for registration within the time set for that purpose, before the formation of classes, and he must be present at the first exercise of each class he is to attend.

EXAMINATIONS

Examinations are held as often as in the judgment of the instructor the necessities of the work require. Examinations are also given at the close of each semester, on the work of the semester, in all subjects except those whose character renders it unnecessary or impracticable.

A record is kept of each student's standing.

SEMESTERS AND RECESS

The University year is divided into semesters, each covering eighteen weeks of instruction. There is a recess of two weeks at the Christmas holidays.

For dates of opening and closing, see Calendar, p. 5.

GRADUATION

In all cases credit for one hundred and thirty "semester hours" (see p. 180) is required for graduation. The candidate for a degree in any course must complete all the subjects prescribed for graduation in that course, and when, in doing this, he does not gain the necessary credit of one hundred and thirty hours, he must make up the deficiency by the election of other courses.

The combinations of studies under which a student may graduate are too numerous to describe here; they are given under the separate colleges and schools.

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ADMINISTRATION OF THE UNIVERSITY

GOVERNMENT

The government of the University is vested by the Trustees primarily in the President of the University, in the Faculty, in the Council of Administration, and in the Deans.

The President is the executive head of the University.

The Dean of the General Faculty has general oversight of the instructional work of the University, and especial supervision of the graduate school. By order of the Board of Trustees he also fills the office of Vice-President.

The Dean of each college is responsible for the enforcement of all University regulations within his college.

The Council of Administration is composed of the President, the Dean of the General Faculty, the Dean of the Woman's Department and the Deans of the separate colleges. It constitutes an advisory board to the President, *and has exclusive jurisdiction over all matters of discipline.*

The Council does not exercise general legislative functions, but when any matter arises which has not been provided for by common usage or by rule of the General Faculty, and which cannot be conveniently laid over till the next meeting of the General Faculty, the Council may act upon the same according to its discretion.

The determination of the general internal policy of the University is in charge of the Faculty.

The faculties of the different colleges and schools of the University are composed of the members of the corps of instruction of these colleges and schools, and have jurisdiction over all matters which pertain exclusively to these organizations, subject always to higher University authority.

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ORGANIZATION

For the purpose of more efficient administration, the University is divided into several colleges and schools. This division does not imply that the colleges and schools are educationally separate. They are interdependent and together form a unit. In addition to the courses mentioned as given in each college and school, instruction in military science and physical training is provided. The organization is as follows:

I. The College of Literature and Arts.
II. The College of Engineering.
III. The College of Science.
IV. The College of Agriculture.
V. The Graduate School.
VI. The School of Library Science.
VII. The School of Music.
VIII. The College of Law.
IX. The College of Medicine.
X. The School of Pharmacy.
XI. The School of Dentistry.

THE COLLEGE OF LITERATURE AND ARTS

The College of Literature and Arts offers—

1. General courses, offering a wide range of electives.

2. Specialized courses, or courses under the group system, including—

a. The Classical Group.
b. The English Group.
c. The German and Romanic Language Group.
d. The Latin and Modern Language Group.
e. The Philosophical Group.
f. The Political Science Group.

THE COLLEGE OF ENGINEERING

The College of Engineering offers courses—

1. In Architecture.
2. In Architectural Engineering.
3. In Civil Engineering.
4. In Electrical Engineering.
5. In Mechanical Engineering.
6. In Municipal and Sanitary Engineering.
7. In Railway Engineering.

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THE COLLEGE OF SCIENCE

The College of Science offers courses arranged in six groups, as follows—

1. The Chemical and Physical Group.
2. The General Science Group.
3. The Household Science Group.
4. The Mathematical Group.
5. The Pedagogical Group.
6. The Preliminary Medical Group.

COLLEGE OF AGRICULTURE

The College of Agriculture offers courses in—

1. Agronomy.
2. Animal Husbandry.
3. Dairy Husbandry.
4. Horticulture.
5. Household Science.
6. Veterinary Science.

THE GRADUATE SCHOOL

The Graduate School offers courses in—

1. Agriculture.
2. Engineering.
3. Literature, Philosophy, and the Arts.
4. The Sciences.

An enumeration of the departments of graduate study is given at the beginning of "General Description of Courses" (p. 161), and the separate graduate courses offered are described in connection with the proper subjects in the list of courses which there follows.

THE SCHOOL OF LIBRARY SCIENCE

The School of Library Science, or the State Library School, offers a course of study, extending over four years, in preparation for the practice of the work of a librarian. The course leads to the degree of bachelor of library science.

THE SCHOOL OF MUSIC

The School of Music offers courses in vocal and instrumental music, leading to the degree of bachelor of music.

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THE COLLEGE OF LAW

The College of Law offers a course of study leading to the degree of bachelor of laws.

THE COLLEGE OF MEDICINE

The College of Medicine offers a course of study leading to the degree of M.D.

THE SCHOOL OF PHARMACY

The School of Pharmacy offers a course in all branches necessary to a complete scientific and practical knowledge of pharmacy, including pharmacy, chemistry, materia medica, botany, physics, and physiology. The course leads to the degree of graduate in pharmacy or to that of pharmaceutical chemist.

THE SCHOOL OF DENTISTRY

The School of Dentistry, to be opened in October, 1901, will offer courses leading to the degree of D.D.S.

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COLLEGE OF LITERATURE AND ARTS

FACULTY

ANDREW S. DRAPER, LL.D., PRESIDENT.
DAVID KINLEY, PH.D., DEAN, Economics (On leave, 1900-1901).
THOMAS J. BURRILL, PH.D., LL.D., Botany.
SAMUEL W. SHATTUCK, C.E., Mathematics.
CHARLES W. ROLFE, M.S., Geology.
ARTHUR W. PALMER, Sc.D., Chemistry.
FRANK F. FREDERICK, Art and Design.
HERBERT J. BARTON, A.M., Latin.
CHARLES M. MOSS, PH.D., Greek.
DANIEL K. DODGE, PH.D., English.
ALBERT P. CARMAN, Sc.D., Physics.
EVARTS B. GREENE, PH.D., History.
KATHARINE L. SHARP, PH.M., B.L.S., Library Science.
GEORGE T. KEMP, M.D., PH.D., Physiology.
JACOB K. SHELL, M.D., Physical Training.
LEWIS A. RHOADES, PH.D., German.
JAMES B. SCOTT, J.U.D., Public Law.
THOMAS A. CLARK, B.L., ACTING DEAN, Rhetoric.
ARTHUR H. DANIELS, PH.D., Philosophy.
GEORGE D. FAIRFIELD, A.M., Romanic Languages.
CHARLES W. TOOKE, A.M., LL.B., Public Law and Administration.
NEWTON A. WELLS, M.P., Painting.
EDWIN G. DEXTER, B.PD., PH.D., Education.
ISABEL BEVIER, PH.M., Household Science.
EDMOND G. FECHÉT, MAJOR U.S.A., (retired), Military.
EDGAR J TOWNSEND, PH.D., Mathematics.
VIOLET D. JAYNE, A.M., English.

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HARRY S. GRINDLEY, Sc.D., Chemistry.
HERMAN S PIATT, PH.D., Romanic Languages.
FRANK SMITH, A.M., Zoölogy.
GEORGE H. MEYER, A.M., SECRETARY, German.
STRATTON D BROOKS, M.PD., Education.
MATTHEW B. HAMMOND., PH.D., Economics and Sociology.
JENNETTE E. CARPENTER, O.M., Physical Training.
GEORGE A HUFF, JR., Coach of Athletic Teams.
WILLIAM C. BRENKE, M.S., Astronomy.
HENRY L. SCHOOLCRAFT, PH.D., History.
NEIL C. BROOKS, PH.D., German.
MARTHA J. KYLE, A.M., Rhetoric.
HENRY L. COAR, A.M., Mathematics.
WILLIAM A. ADAMS, A.B., Rhetoric and Public Speaking.
EDWARD J. LAKE, B.S., Art and Design.
LUCY H. CARSON, A.M., English.
GEORGE M. HOLFERTY, M.S., Botany.
JOHN H. MCCLELLAN, A.M., Zoölogy.
JUSTUS W. FOLSOM, S.D., Entomology.
NATHAN A. WESTON, M.L., Economics.
CLARENCE W. ALVORD, A.B., History.
DAISY L. BLAISDELL, A.M., German.
FLORENCE N. JONES, A.M., French.
CORNELIA E. SIMON, Household Science.
HUGH J. GRAHAM, A.B., Rhetoric.
HELEN L. MCWILLIAMS, A.B., Fellow, French.
WILLIAM G. PALMER, A.B., Fellow, Latin.
OSCAR L. HOUSEL, Military.

AIMS AND SCOPE

The College of Literature and Arts includes those branches usually comprised in a department of philosophy and arts, with the exception of the natural sciences. The aim of the College is a double one: to furnish a liberal education, and to afford opportunity for specialization in literature, philosophy, and the political sciences. It is believed that this double purpose can be accomplished best by a

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judicious combination of prescribed and elective studies, which, while so directing the work of the student as to secure the desired mental training, will allow him a considerable range of choice in the selection both of his main line of work and of subjects auxiliary thereto.

In conformity with this general plan, it is provided that students may graduate either under a system offering a choice of a considerable number of subjects, or under one in which the principal part of the student's work is in a single line of study, or a group of related lines. The subjects which may be selected for this special study are listed as major electives on page 70. These two systems are named respectively the general course system and the specialized course, or group, system.

The only degree given in this College is that of A.B.

THE GENERAL COURSE SYSTEM

In the General Course System it is planned to permit the student to select his studies from as wide a range of subjects as he pleases, restricted only by a certain minimum of prescribed work and by certain requirements as to the time which must be spent upon each subject in order to secure a reasonable degree of concentration. The prescribed subjects are part of the work of the first two years. So far as possible, the work of the freshman year must be made up wholly of prescribed subjects, and the rest of the prescribed work must be done in the sophomore year. Within the limits of the prescribed work, moreover, the student is permitted a choice of lines of study. For example, while a year of science is prescribed for all students, any one of the sciences may be chosen.

After finishing the prescribed subjects, each student must elect a sufficient number of courses to yield him the necessary credit for graduation. At least two electives must be pursued, each for two years, so that the student may secure twenty hours' credit in each. These two subjects are known as his majors. The word is applied in

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the general course system to any subjects primarily classed in the College of Literature and Arts, in which the student secures twenty hours' credit. The subjects are listed as major electives, on page 70. If the student pursues the study of any one of these subjects for less than two years, it is credited to him as a minor, as is also any subject not there listed, regardless of the time spent on it.

In the choice of his electives other than his majors, the student may take a minimum of work in each of a maximum number of subjects, or he may take a maximum amount of work in the minimum number of subjects necessary to fill up his time according to the rules of the University. The elective minor courses open to the students of the College include subjects offered in the other colleges and schools of the University. The sciences are not an integral part of the work of the College of Literature and Arts, but they are so important a part of a liberal education that every student of the College is earnestly urged to extend his study of them so far as may be. Certain courses in the College of Engineering and in the College of Agriculture, although of a somewhat technical nature, may also be counted for credit in the College of Literature and Arts. These are more particularly mentioned under "minor courses," on page 70.

REQUIREMENTS FOR GRADUATION UNDER THE GENERAL COURSE SYSTEM

Credit for 130 hours (p. 180), including the prescribed military and physical training, is required for graduation under the general course system. Every student must take the prescribed subjects; in addition, he must select at least two subjects from the list of major electives, and he must then choose work sufficient to yield him the remainder of the required number of hours.

No credit is granted in any subject unless the student pursues it for the minimum time for which any course in the subject is offered. For example, if a student elects a

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course which yields two hours' credit for one semester,* he must stay in the class during the semester in order to get any credit at all. No credit is granted for less than ten hours' work in the first year of the study of any foreign language. After the first year credit may be obtained for the work of a single semester.

THE SPECIALIZED COURSE, OR GROUP, SYSTEM

A specialized, or group, course is one in which the student is required to pursue a single line of study for three consecutive years, in addition to doing the prescribed work and writing a thesis. At least twenty hours' work in the chosen subject must be done before the beginning of the senior year. No student may be enrolled in a specialized course without the permission of the head of the department in which he wishes to do his principal work. The subject in which the thirty hours' work is required is called the student's major, and must be chosen from the list of major electives (p. 70).

As a rule, those students only who take a specialized course will be recommended from this College for fellowships, scholarships, and other university honors.

REQUIREMENTS FOR GRADUATION UNDER THE SPECIALIZED COURSE, OR GROUP, SYSTEM

Credit for 130 hours, including the prescribed military and physical training, together with an acceptable thesis, is required for graduation under the group system. Every student must take the prescribed subject. Not later than the beginning of his junior year he must designate the group in which he wishes to be enrolled. He must at that time choose one subject in the group as his major, the study of which, alone or with the subjects designated as specifically preparatory to it, he must pursue during the remaining two years, and secure in it at least thirty hours' credit in all. He must then select, with the approval of the head of the department

*See for example Civil Engineering 16, p. 211.

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in which his major subject belongs, a sufficient number of other studies to yield him the necessary number of hours.

A student in a specialized course must also present an acceptable thesis. This thesis must be on a topic connected with his major study, and must present the results of investigation made during the last year of the student's course. The work of investigation must be the required work in the major subject, in whole or in part, during the student's senior year.

As in the general course system, no credit is given for parts of courses, and at least one full year's work must be done by those who begin a foreign language, in order to secure any credit therefor. The same work may not be credited both as major and minor.

The groups are as follows:

The *Classical Group*, including Greek and Latin as the major subjects. One of these languages must be taken for thirty, the other for twenty, hours.

The *English Group*, including the Scandinavian languages. Students in this group must take two years of French or German before the beginning of the junior year, or must be able to read one of these languages easily. Those who elect the course in language must have at least two years of German.

The *German and Romanic Language Group*. Either German or French may be taken as a major, but twenty hours' credit in the other must be secured. Besides the required work in English, all students must elect additional English sufficient to make a total of at least ten hours. Students of marked ability, who take French as a major, are advised to take the courses offered in Spanish or Italian.

The *Latin and Modern Language Group*, including Latin, German, and French. Twenty hours' credit must be obtained in the language chosen for a minor.

The *Philosophical Group*, including education, philosophy, psychology, and mathematics as major subjects. In this group the second year of the student's work is devoted

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to studies specifically preparatory to the principal subject, which is itself taken up at the beginning of the third year.

Students in this group who make *philosophy* a major must, in the second year, make ten hours of credit from among these subjects: Anthropology, psychology, economics 17 (sociology), Greek 5.

Those who make *psychology* their major subject must, in their second year, make ten hours from among these subjects: Botany 1, 2; economics 17; philosophy 2, 6, 8; physiology 4; zoölogy 1.

When *education* is the major, the work specifically preparatory is logic (philosophy 1a or 1b), outlines of philosophy (philosophy 2), and elementary and educational psychology.

Those students who make *mathematics* their major work must take the courses in mathematics numbered 2, 4, 6, 7, 9, 10, 11, 15, 16, 17, and may elect as many more courses as desired. They must also make ten hours in philosophy, (including philosophy 1a or 1b), and either twenty hours in German or ten in French.

The *Political Science Group*, including economics, history, and public law and administration. All students in this group must take the three elementary courses: history 1, economics 1a and 1b, and public law and administration 1; and must also secure five hours in physiography, and at least three hours in philosophy, selected from courses 1, 2, 3, and 4. All students in the group must take at least one year's work in either French or German, before the beginning of the junior year, or must furnish satisfactory evidence of their ability to use at least one of the languages.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Advanced Algebra (Math. 1, 2); 2 or 3 hours.
English 1; 5 hours.
French 1, German 1 and 3, Greek 1, 2, or Latin 1; 10 hours.
Geometry, Solid and Spherical; 3 hours.

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History, 1 or 2 and 6; 6 hours.
Logic (Philosophy 1a or 1b); 3 hours.
Military 1, 2; 5 hours.
Physical Training—
For men, 2½ hours.
For women, 3 hours.
Natural Science; 10 hours.
*Rhetoric 1, 3; 11 hours.
Trigonometry (Math. 3, 4); 3 or 2 hours.

ELECTIVE

MAJOR COURSES

Economics 1 to 22; 20 to 44 hours.
English 1 to 18; 20 to 40 hours.
French 1 to 4; 20 to 36 hours.
German 1, 3 to 13; 20 to 50 hours.
Greek 1 to 8; 20 to 30 hours.
History 1 to 10; 20 to 44 hours.
Latin 1 to 9; 20 to 50 hours.
Mathematics 1 to 25; 20 to 59 hours.
Education 1 to 9; 20 to 27 hours.
Philosophy 2 to 8; 20 to 21 hours.
Public Law and Administration 1 to 9; 20 to 38 hours.
Psychology 1 to 8; 20 hours.
Rhetoric 1 to 8; 20 to 35 hours.

MINOR COURSES

The necessary number of hours additional to those provided for in the prescribed subjects and the chosen major electives may be secured from any of the subjects offered in the College of Literature and Arts, or in the College of Science, the requirements for which the student can meet. But not more than twenty hours in Art and Design may be counted toward the degree nor more than five hours in physical training, including the amount prescribed. Course 12 in library science may be taken as a minor. Certain courses offered in the College of Engineering may also be chosen; as, for example, history of archi-

*Students securing an average semester grade of 85 per cent. in Rhetoric 1 will be excused from the additional requirement in Rhetoric.

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tecture (Arch. 28); heating and ventilation (Arch. 13); domestic architecture (Arch. 27), etc.

The attention of young women is especially called to the courses grouped under Household Science, p. 238.

COURSE OF INSTRUCTION

All the prescribed subjects *must be finished by the end of the sophomore year.* The following statement gives the years and semesters in which they occur:

FIRST YEAR

Fifteen to eighteen hours' work a week, exclusive of military and physical training, must be chosen each semester from among the following subjects: those in italics *must be* in the list chosen. It is expected that five hours in natural science will be taken each semester from the options named below; but if one desires to pursue an extended course in physics instead, he may omit science in the freshman year and take up that subject in the sophomore year.

First Semester—

History: Mediæval and Modern European History (Hist. 1), or 19th Century History (Hist. 2); 3 or 2 hours.

Language and Literature: English 1, 5 hours; French 1, or German 1, or Greek 1, or Latin 1, 5 hours; *Rhetoric* 1, 3 hours.

Mathematics: Advanced Algebra and Trigonometry (Math. 1, 2 or 3, 4); 5 hours.

Military: Drill (Mil. 1); 1 hour.

Natural Science: Astronomy 5, or Zoölogy 10, or Botany 2, or Chemistry 1, or Physiography 1, or Entomology 1 or 2; 5 hours.

Physical Training—

For men—Physical Training 1, 3; 1¼ hours.

For women—Physical Training 7, 9; 2 hours.

Second Semester—

History: Mediæval and Modern European History (Hist. 1), 3 hours continued; or 19th Century History (Hist. 2), continued, and Roman History (Hist. 6), 5 hours.

Language and Literature: French 1, or German 3, or Greek 2, or Latin 1, continued as begun in the first semester; 5 hours. *Rhetoric* 1, continued; 3 hours.

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Mathematics: Solid and Spherical Geometry; 3 hours.
Military: Tactics and Drill (Mil. 1, 2); 2 hours.
Natural Science: Astronomy 4, or Botany 1, or Chemistry 2 or 2a or 3a or 3b, or Geology 3, or Physics 2, or Physiology 4, or Zoölogy 1, or Entomology 3 or 4; 5 hours.
Physical Training—
For men—Physical Training 1, 3; 1¼ hours.
For women—Physical Training 7; 1 hour.

SECOND YEAR

Fifteen to eighteen hours' work per week, exclusive of military and physical training, must be chosen each semester. This work *must include all of the prescribed subjects which were not taken in freshman year.* (See p. 69, and the classification under first year.) It must also include the following:

Logic: (Phil. 1a first semester, or Phil. 1b second semester); 3 hours.
Military: Drill (Mil. 2) both semesters; 2 hours.
Rhetoric: English Composition (Rhet. 3); first or second semester, 5 hours.

The remaining hours may be made up by the election of any subjects the requirements for which the student can meet.

THIRD AND FOURTH YEARS

The studies of these are all elective.

LEGAL STUDY AND COLLEGE WORK

By a proper selection of his studies it is possible for a prospective law student to take both his degree in arts and his degree in law in six years. A student who intends to do this should announce his purpose not later than the beginning of his sophomore year, and is advised to enroll in the political science group. He should first do all the work prescribed for candidates for the degree of A.B. (see pp. 66, 67); he should then take studies sufficient to leave him not more than fifteen hours' credit to make in the senior year of his college course. The student during this year should enroll in the College of Law

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and take the first year's work there. Of this work ten hours, but no more, may be counted in the College of Literature and Arts as part of the fifteen hours remaining to be taken for the arts degree. These ten hours must be in contracts (Law 1) and real property (Law 3).

Students are not permitted to take this law work for credit toward the arts degree until their senior year; nor are they permitted to take it at all unless they are regularly matriculated candidates for the arts degree.

A fee of five dollars is charged for every law subject taken by students who do not pay the regular law school fees.

SPECIAL COURSE PREPARATORY TO LAW

This course is suggested as a suitable one for students who do not intend to take the degree of A.B. before entering the College of Law. Prospective law students who wish to get their arts degree first, should arrange their work as suggested in the statement about "Legal Study and College Work." If a student can spend but two years in preliminary study he should take the following course:

FIRST YEAR

1. Principles of Economics and English Economic History (Econ. 1, a and b); Mediæval and Modern European History (Hist. 1); Historical Introduction to Contemporary Politics (Hist. 2); Political Institutions (Pub. Law and Admin. 1); Jurisprudence (Pub. Law and Admin. 2); Rhetoric and Themes (Rhet. 1).

2. Five hours in economics from these courses: Money and Banking (Econ. 3); Financial History of the United States (Econ. 4); The Transportation Problem (Econ. 8); Mediæval and Modern European History (Hist. 1); Historical Introduction to Contemporary Politics (Hist. 2); Political Institutions (Pub. Law and Admin. 1); Jurisprudence (Pub. Law and Admin. 2); Rhetoric and Themes (Rhet. 1).

SECOND YEAR

1. Five hours in economics from these courses: Financial History of the United States (Econ. 4); The Tariff Problem (Econ. 7); The Labor Problem (Econ. 12); The Monopoly Prob-

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lem (Econ. 18); American History (Hist. 3); or English Constitutional History (Hist. 4); Comparative Administrative Law (Pub. Law and Admin. 5); Oral Discussions (Rhet. 5); Public Speaking (Rhet. 7).

2. Five hours in economics from these courses: Money and Banking (Econ. 3); Financial History of the United States (Econ. 4); Public Finance (Econ. 5); The Transportation Problem (Econ. 8); American History (Hist. 3); or English Constitutional History (Hist. 4); International Law (Pub. Law and Admin. 4); Comparative Administrative Law (Pub. Law and Admin. 5); Oral Discussions (Rhet. 5).

If a student can spend but one year in preliminary work he should select from the above course such subjects as he is prepared for.

COURSES FOR TEACHERS

Students who wish to prepare themselves for teaching are advised to enroll in the group (pp. 67-69) in which occur the special subjects which they wish to teach. It is possible for a student so to combine the studies of the group he enters with electives in pedagogy and psychology as to give him both the necessary knowledge of his specialties and the desirable pedagogical preparation. Students who have teaching in view should in all cases consult the Dean of the College before they make up their study lists.

As a rule, students who arrange their courses of study with reference to teaching particular subjects will have the preference in recommendations to positions calling for teachers of those subjects.

DESCRIPTION OF DEPARTMENTS

ART AND DESIGN

It is the aim of the department of art and design of the University of Illinois to offer courses that will assist students in their University studies, cultivate their esthetic taste, and equip them for future art work.

The department has kept pace with the growth of the

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University, has broadened its courses of study and has increased the number of its instructors so that it now offers many courses in drawing, painting, modeling, and design, making it possible for any University student, without additional expense, to secure valuable instruction in art.

All the courses of the department are also open to special students of art. These students enjoy opportunities beyond the reach of students in the usual art school, since all of the departments of the Preparatory School and of the University are open to them without additional expense.

On account of the close connection of the department of art and design with the other departments of the University, students may specialize in the artistic sides of their chosen courses of study, and students wishing to become teachers of drawing or manual training in the public schools may arrange courses to suit their individual needs.

ECONOMICS

The work in economics for undergraduates is so arranged that the student can take a continuous course for from one to three years. The courses are designed to cover as large a field as possible in the literature of the subject, and to present all disputed matters from different points of view.

Minor courses in sociology are provided for in the department.

EDUCATION

It is the aim of the department of education to meet as fully as possible the needs of the prospective secondary school teacher, and those of the city superintendent. The normal schools of our state are well equipped for supplying the wants of the elementary schools, and it is intended that this work shall be supplemented, though not duplicated, here. General courses in the history of education and the principles of pedagogy are offered, but graduates of normal schools who have had similar courses may be

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given credit for them, and thus be enabled to devote their whole time to more specific phases of pedagogical work. The department works in conjunction with others of the University in directing the student's energies in such a way that the technical preparation to teach a special group of high school subjects may be combined with the proper pedagogical training to enable the teacher to apply his knowledge most advantageously. Special problems in research and investigation are offered to graduate students.

The department possesses a pedagogical library and museum, which is a unique feature. In it are various materials, all of interest and value to the student of the theory and art of teaching, the whole forming a working pedagogical laboratory.

ENGLISH LANGUAGE AND LITERATURE

The courses are designed to give a continuous view of the twofold subject from the earliest times to our own day. In the junior and senior years double courses are offered, so that students, having had the fundamental work of the sophomore year, may, if desired, confine themselves either to philology or to literature. The aim in the study of literature is to approach the works of an author from the philosophical, emotional, and esthetic, as well as from the merely linguistic and historical points of view.

FRENCH

(See Romanic Languages, p. 80).

GERMAN

Four years of instruction are offered in this subject. By alternating the work in the third and fourth years, provision is made that students whose knowledge of the language at entrance enables them to begin with the third year's work, can pursue the subject throughout their course. The work of the first and second years is intended to give the student the best possible reading knowledge. In the second semester of the second year an opportunity

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is offered those whose special interest in the language is as a tool in scientific or technical studies, to read some work of a scientific character, but ability to translate readily and accurately is, in all cases, especially emphasized.

The work of the third and fourth years consists of a critical study of the classic poets and modern writers, and of lectures in German literature.

GREEK

The general purposes of the courses laid out in this subject are first, to teach the Greek language; second, to train students to appreciate its literature; and third, to call attention to those numerous problems in the history, thought, and institutions of the Greeks which illustrate similar phenomena noticeable among ourselves. To accomplish the first object, due attention is paid to the principles of grammar, particularly by making the syntax appear as the evidence of orderly mental procedure, and by continual practice in extemporaneous translation. The second is effected by a study of the surroundings and spirit of an author, and of those literary devices which give character to his productions. The third end is reached through familiar talks upon suitable topics as they are met.

HISTORY

In the courses offered by this department the effort is made, not merely to give students a general knowledge of historical facts, but also to give them some conception of the aims and methods of historical science, and of the materials with which it deals. To this end exercises in historical investigation, more or less elementary, will form a prominent part of the work in all the higher undergraduate courses, as well as in the seminaries.

ITALIAN

(See Romanic Languages, p. 80).

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LATIN

The courses at present offered in Latin are nine in number and extend over three years. The first year's instruction is, as far as needed, grammatical, prominence being given to Latin writing as the best method of acquiring a mastery of the language.

As soon as this preliminary work is done, the attention is directed to two ends. The first is the acquisition of power to read the language with ease and pleasure The thought is constantly emphasized that students are not simply reading Latin—they are reading some of the great literary masterpieces of the world, and should enjoy them as such. The second aim is to introduce the student to the daily life of the Roman; to make his home life vivid and his political life a reality.

The courses offered include a teachers' class, the work of which is based on the needs of those teaching preparatory Latin, and methods of presentation, difficulties, aims, and results are discussed. The members of the class do the work which they, as teachers, should require of their pupils, and at intervals take charge of the recitation.

MATHEMATICS

The object of the instruction in pure mathematics is to promote habits of mental concentration and continuity of thought, to develop the capacity to form and combine abstract conceptions, and to cultivate deductive reasoning. The course is so arranged as to meet the requirements of those who wish to fit themselves for teaching, and of those who study the science for the love of it.

The mathematical courses open to students of the College of Literature and Arts include the entire offering of the University in mathematics.

MILITARY SCIENCE

The work of the department of military science is prescribed for all male students of the Colleges of Literature

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and Arts, Engineering, Science, and Agriculture. A full description of the work offered and of the aims and scope of the department will be found farther on in the catalog. (See p. 292.)

PHILOSOPHY

The work in this department includes history of philosophy, metaphysics, ethics, and logic, and is so arranged that the student may take a continuous course for either one or two years.

The courses are planned to meet the needs of those who make philosophy their specialty, and also of those who desire an acquaintance with the subject as a means of general culture. It is the constant aim to emphasize the meaning and interest of philosophy and the relations of its problems to the life of man.

PHYSICAL TRAINING

The work of this department is offered to all students in the University. Consequently the department properly belongs in all the colleges. A full description of its aim and scope is given farther on. (See p. 293.)

PSYCHOLOGY

Besides the opportunity offered in this department for scientific training and original research, there is also given a basis for general culture. The student is taught to observe psychic phenomena in himself, and in his social surroundings, both individual and collective, and is thus given a standpoint from which to approach social and ethical questions intelligently.

Historically, psychology is treated with a view to giving the student a connected idea of the development of the subject. Its experimental development and recent phases are given special attention, with particular comment upon the probable lines of its future development, and the place in human economy which it aims to fill.

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PUBLIC LAW AND ADMINISTRATION

The courses in public law and administration are planned with two purposes in view: (1) to give, in conjunction with the instruction in economics and history that information and training which are requisite to intelligent citizenship; and (2) to afford opportunities for advanced work to those who may desire more thorough preparation, either for active political life or preliminary to the study of law.

To meet these ends, the work is so arranged that the subject may be pursued continuously for three years. The elementary courses are given every year, while the advanced courses are offered in alternate years.

The courses, as a whole, are intended to cover the theory of the state, its organization and practical operation.

RHETORIC AND ORATORY

The object of the courses in this department is to acquaint the student with the principles of rhetoric, to teach him correctness and effectiveness in the writing of English, and to give him some practice in the oral expression of his ideas. The subject matter is presented by means of textbooks and lectures, though more emphasis is put upon practice than upon theory.

ROMANIC LANGUAGES AND LITERATURES

This department offers four years of instruction in French and one year each in Spanish and Italian. In the elementary courses the main object is to give the student correct pronunciation, grammatical knowledge, and the ability to read the languages with facility. In the second year attention is especially directed to various phases of nineteenth century literature; effort is made to ground the student thoroughly in the modern idiom, and lectures are given upon the outlines of French literature. The work of the third year is a study of the masterpieces of the seventeenth century. Ability to understand readily spoken French is requisite for admission to this course. The field of the

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fourth year's work is literature and society in the eighteenth century. A graduate course is offered in Old French; some of the more important texts are studied, and attention is given to the origins of the language.

SOCIOLOGY

See courses 15 and 17 under economics, p. 218. See also for allied courses, anthropology, p. 187, and psychology, p. 269.

SPANISH

(See Romanic Languages, p. 80).

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COLLEGE OF ENGINEERING

FACULTY

ANDREW S. DRAPER, LL.D., President.
N. CLIFFORD RICKER, D.ARCH., DEAN, Architecture.
THOMAS J. BURRILL, PH.D., LL.D., Bacteriology.
SAMUEL W. SHATTUCK, C.E., Mathematics.
IRA O. BAKER, C.E., Civil Engineering.
ARTHUR N. TALBOT, C.E., Municipal and Sanitary Engineering; Mechanics.
ARTHUR W. PALMER, Sc.D., Chemistry.
FRANK F. FREDERICK, Art and Design.
SAMUEL W. PARR, M.S., Applied Chemistry. (On leave.)
DANIEL K. DODGE, PH.D., English.
LESTER P. BRECKENRIDGE, PH.B., Mechanical Engineering.
DAVID KINLEY, PH.D., Economics. (On leave.)
ALBERT P. CARMAN, Sc.D., Physics.
JACOB K. SHELL, M.D., Physical Training.
LEWIS A. RHOADES, PH.D., German.
THOMAS A. CLARK, B.L., Rhetoric.
GEORGE D. FAIRFIELD, A.M.,French, Spanish.
WILLIAM S. ALDRICH, M.E., Electrical Engineering.
NEWTON A. WELLS, M.P., Decoration and Rendering.
EDMOND G. FECHÉT, MAJOR U.S.A., (retired), Military.
EDGAR J TOWNSEND, PH.D., Mathematics.
JAMES M. WHITE, B.S., Architecture.
WILLIAM ESTY, B.S., A.M., Electrical Engineering.
HARRY S. GRINDLEY, Sc.D., Chemistry.
HERMAN S PIATT, PH.D., French.
FRED A. SAGER, B.S., Physics.

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CYRUS D. MCLANE, B.S., Architecture, Mechanics.
JAMES D. PHILLIPS, B.S., General Engineering Drawing.
SETH J. TEMPLE, PH.B., Architecture.
OSCAR QUICK, A.M., Physics.
WILLIAM H. BROWNE, JR., A.B., Electrical Engineering.
GEORGE H. MEYER, A.M., German.
GEORGE A. GOODENOUGH, M.E., Mechanical Engineering.
MILO S. KETCHUM, C.E., Civil Engineering.
MATTHEW B. HAMMOND, PH.D., Economics.
CHARLES T. WILDER, B.S., Photography, Blue Prints.
WILLIAM C. BRENKE, M.S., Astronomy.
NEIL C. BROOKS, PH.D., German.
EDWARD L. MILNE, M.S., Mathematics.
MARTHA J. KYLE, A.M., Rhetoric.
HENRY L. COAR, A.M., Mathematics.
EDWARD C. SCHMIDT, M.E., Mechanical Engineering.
EDD C. OLIVER, B.S., Mechanical Engineering.
WILLIAM A. ADAMS, A.B., Rhetoric.
EDWARD J. LAKE, B.S., Art and Design.
LUCY H. CARSON, A.M., English.
ROBERT L. SHORT, A.B., Mathematics.
ALFRED L. KUEHN, B.S., Civil Engineering.
DWIGHT T. RANDALL, B.S., Mechanical Engineering.
ERNEST W. PONZER, B.S., Mathematics.
JAMES F. KABLE, B.S., General Engineering Drawing.
HARRY C. MARBLE, B.S., Electrical Engineering.
CYRIL B. CLARK, Machine Shop.
ALBERT R. CURTISS, Wood Shop.
HENRY JONES, Forge Shop.
JOSEPH WILSON, Foundry.
HUGH J. GRAHAM, Rhetoric.
ROY H. SLOCUM, B.S., Mechanics.
HARRY C. COFFEEN, M.S., General Engineering Drawing.
OSCAR L. HOUSEL, Military.

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AIMS AND SCOPE

The purposes of the College of Engineering are thoroughly to prepare men for the professions of engineering and architecture, and also to offer a first-rate training for future managers of great business enterprises. The different courses must therefore comprise both general and technical studies. A primary requisite of success is the ability to present briefly and clearly ideas in terse, correct, and vigorous English. A large fund of general knowledge is now essential to every professional man in order to maintain proper influence among business men. An acquaintance with social customs and life is equally helpful.

The marked tendency now toward specialization requires the graduate to be able successfully to enter any specialty of his profession, thus requiring both breadth and thoroughness in his technical training, with frequent applications to practical problems. Employers have no time to educate assistants in the details of their work.

But a solid foundation in mathematics is still indispensable, and this science is so presented as to be most practically useful. Since a great part of the most valuable knowledge is found only in foreign languages, the graduate should be able to read such technical works in order to keep up with the rapid advances in modern engineering.

The time devoted to technical studies increases during the courses, and occupies more than half the period of University attendance.

METHODS OF INSTRUCTION

Text-books are used for theory, facts and data, since (if enriched by notes and additions) they afterwards form the most valuable portion of a professional library. Lectures are also given, when proper text-books do not exist, to arouse the enthusiasm of the student by presenting in concise form the latest results and practice. Discussions elucidate difficult points, and they are illustrated fully by diagrams, drawings, blue-prints and photographs of executed work. The elec-

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tric lantern is also fully employed. Seminar classes present and discuss papers on interesting technical ideas. Applications of the theoretical instruction are profusely made to numerical problems, to designs, and to working drawings.

EQUIPMENT

The special equipment of each department is described in connection with that department. The general equipment of the College consists of a good reference library of indexes, pocket-books, mathematical tables, and other works, together with a very valuable collection of apparatus for economizing time and ensuring accuracy in engineering calculations. These are much used for checking computations and for measuring, reducing, and tabulating observed data, especially for theses, and also for computing tables.

The principal instruments are Thomas's 10-place arithmometer, giving accurate results to 20 places; Thacher's computing scales; Grant's computing machines; other calculating machines, various types of slide rules, adders, etc.; Amsler's polar planimeter and Amsler's integrator; Coradi's linear and polar planimeters for very accurate measurement of irregular plane areas; Coradi's pantagraph for the automatic reduction of drawings and maps.

DESCRIPTION OF DEPARTMENTS

ARCHITECTURE

This department offers two courses of instruction and practice, enabling the graduate to enter respectively the professions of architect and architectural engineer.

The course in architecture prepares for the examination prescribed by the state license law for architects and for the general practice of architecture. Instruction is given by text-books, by fully illustrated lectures, and especially by practice in drawing, rendering, and design, extending through four years and ending with a carefully rendered thesis design.

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The specialties of the course are construction, design, and architectural history.

EQUIPMENT

A large collection of casts of ornament, models of structures, working drawings and blue prints, specimens of stones, bricks, tiles, terra cotta, fixtures and fittings, etc., is arranged in the architectural museum. More than 20,000 engravings, photographs, etc., mounted on cards, are classified for quick reference in the drawing rooms. An electric lantern is used in a specially fitted room, together with a collection of 4,000 lantern slides illustrating the history of architecture and that of painting. A very fine architectural library is located in a large room in the department, and is open for use by students during the entire day. The drawing rooms are spacious, well lighted, amply supplied with desks, lockers, and boards.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Architecture

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Free-hand Drawing or Modeling (Arch. 20 or 21); French 5, or German B or 1 or 4, or English 1; Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Architectural Perspective (Arch. 14); French 6, or German 3 or 5 or 6, or English 2; Military 1, 2; Physical Training 1, 3.

Second Year

1. Applied Mechanics (Theo. and App. Mech. 4); Wood Construction (Arch. 2); The Orders of Architecture (Arch. 8); Physics 1; Monthly Problems (Arch. 9); Art and Design 8 or 9; Rhetoric 2; Military 2.

2. Strength of Materials (Theo. and App. Mech. 5); Masonry and Metal Construction (Arch. 3); Requirements and planning of Buildings (Arch. 15); Physics 1; Monthly Problems (Arch. 9); Rhetoric 2; Military 2.

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Third Year

1. History of Architecture (Arch. 6); Details of Styles (Arch. 7); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Architectural Designing (Arch. 17); Chemistry 1, or Economics 1a; Monthly Problems (Arch. 9).

2. History of Architecture (Arch. 6); Details of Styles (Arch. 7); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Architectural Composition (Arch. 18); Working Drawings and Residence Design (Arch. 10, 16); Monthly Problems (Arch. 9).

Fourth Year

1. Superintendence, Estimates, and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Renaissance Design (Arch. 22); Gothic and Romanesque Design (Arch. 23, 24).

2. Design of Ornament (Arch. 25); Mural Decoration (Arch. 28); Surveying (Civil Eng'g 10); Thesis.

ARCHITECTURAL ENGINEERING

This course of study prepares graduates for professional practice as architects, structural designers and computers, as well as superintendents of construction. It is intended for students who prefer the structural and mathematical side of the profession to its artistic side, and who desire to pursue the full engineering course in mathematics and to acquire a thorough knowledge of the iron and steel construction now employed in buildings. It differs from the architectural course principally in the addition of a second year of mathematics and of a year of study in bridge analysis and design, and in devoting considerably less time to architectural drawing and design.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Architectural Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1), or Free-hand Drawing or Modeling (Arch. 20 or 21); French 5, or German B or 1 or 4, or English 1; Military 2; Physical Training 1, 3 or 7.

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2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); or Free-hand Drawing (Arch. 20 or 21); or Architectural Perspective (Arch. 14); French 5, or German 3 or 5 or 6, or English 2; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Differential Calculus (Math. 7); Wood Construction (Arch. 2); The Orders of Architecture (Arch. 8); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Masonry and Metal Construction (Arch. 3); Requirements and Planning of Buildings (Arch. 15); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and App. Mech. 1, 2a); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Chemistry 1.

2. Resistance of Materials, Hydraulics (Theo. and App. Mech. 2b, 3); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Chemistry 16.

Fourth Year

1. Superintendence, Estimates, and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Architectural Engineering (Arch. 19); Bridge Analysis and Details (Civil Eng'g 12, 13).

2. Working Drawings (Arch. 10); Residence Design (Arch. 16); Bridge Details and Design (Civil Eng'g 13, 14); Surveying (Civil Eng'g 10); Thesis.

CIVIL ENGINEERING

The design in this department is to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice, which will enable the student to enter intelligently upon the various and important duties of the civil engineer. While the instruction aims to be practical by giving the student information and practice directly applicable in his future professional work, the prime object is the development of the mental faculties. The power to acquire information and the ability to use it are

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held to be of far greater value than any amount of so-called practical knowledge.

EQUIPMENT

This department has an extensive equipment of compasses, engineers' transits, solar transits, levels,—ordinary and precise,—plane tables, sextants, chronometers, barometers, etc. For the lecture room, the department is provided with full-sized joints of an actual railroad bridge, sections of columns, eye-bars, etc., and a large collection of lithographs, photographs, and blue-prints of bridges and buildings.

The *cement laboratory* occupies rooms in Engineering Hall, and is provided with slate tables, testing machines, molding machines, sieves, etc., and sample barrels of hydraulic cement, varieties of sand, and other necessary materials.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Civil Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 1, 3); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1); French 5, or German B or 1 or 4, or English 1; Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); French 5, or German 3 or 5 or 6, or English 2; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and App. Mech. 1, 2a); Railroad Engineering (Civil Eng'g 4); Chemistry 1; Steam Engines (Mech. Eng'g 16).

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2. Resistance of Materials, and Hydraulics (Theo. and App. Mech. 2b, 3); Graphical Statics and Roofs (Arch. 5); Road Engineering (Mun. and San. Eng'g 1); Descriptive Astronomy (Astron. 4); Steam Boilers (Mech. Eng'g 17).

Fourth Year

1. Bridge Analysis, and Bridge Details (Civil Eng'g 12, 13); Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Practical Astronomy (Astron. 6); Thesis.

2. Bridge Details, and Bridge Design (Civil Eng'g 13, 14); Sewerage (Mun. and San. Eng'g 3); Railroad Structures (Civil Eng'g 17); Tunneling (Civil Eng'g 15), or Geodesy (Civil Eng'g 6); Economics 2 or 8; Engineering Contracts and Specifications (Civil Eng'g 16); Thesis.

ELECTRICAL ENGINEERING

INSTRUCTION

This is a course in theoretical and applied electricity. The first two years of work are substantially the same as in the other engineering courses. The last two years of work include theoretical and applied mechanics, steam engineering and electrical engineering. In each of these branches the student is thoroughly familiarized with principles and their applications in designing and in experimental and constructive work.

EQUIPMENT

The lecture rooms, drafting rooms, and laboratories are furnished in a suitable manner and equipped with the latest and best apparatus. In the dynamo laboratory are various sizes and types of direct and alternating current dynamos, motors, and rotary converters; transformers for all classes of polyphase testing; direct and alternating current switch-boards, of eight marble panels each, with every appliance for expeditious handling of electric currents. Stock, tools, and instruments of best quality are provided for each line of work. The standardizing and photometry rooms, the research and thesis rooms are equipped as may be required for special and advanced work. The workshop

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of this department is fitted for the several branches of electrical construction. Power is supplied from the storage battery installation of this department and from the University electric light and power plant, adjoining, in the same building, in which the direct and alternating current dynamos, driven by steam engines, also afford many facilities for experimental work.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Electrical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); French 5, or German B or 1 or 4, or English 1; Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2a); French 5, or German 3 or 5 or 6, or English 2; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Chemistry 1; Electrical and Magnetic Measurements (Physics 4); Electricity and Magnetism (Elect. Eng'g 3); Dynamo-Electric Machinery (Elect. Eng'g 2); Steam Engines (Mech. Eng'g 16).

Beginning with the first semester, 1899-00, the following groups of elective studies were opened to all students of Electrical Engineering who have satisfactorily completed the prescribed work of the preceding two years and a half, and for which additional work the same degree will be given.

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GROUP I.—ELECTRICAL ENGINEERING

Regular Electrical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 2); Electrical and Magnetic Measurements (Physics 4); Mechanical Engineering Laboratory (Mech. Eng'g 13); Telegraphy and Telephony (Elect. Eng'g 4); Electrical Engineering Laboratory (Elect. Eng'g 22); Electrical Design (Elect. Eng'g 31).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents and Alternating Current Transformer (Elect. Eng'g 5); Electrical Distribution (Elect. Eng'g 7); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electric Power Transmission (Elect. Eng'g 8); Electric Lighting (Elect. Eng'g 9); Electric Traction (Elect. Eng'g 10); Electrical Engineering Laboratory (Elect. Eng'g 23); Photometry (Elect. Eng'g 26); Elective (three semester hours); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32, 33); Seminary (Elect. Eng'g 13); Estimates, Specifications, and Superintendence (Mech. Eng'g 10); Economics 2; Advanced Electrical Measurements (Physics 9); Electro-Metallurgy (Elect. Eng'g 12); Electrical Engineering Laboratory (Elect. Eng'g 23, 24); Thesis.

GROUP II.—ELECTRICAL ENGINEERING

Electro-Physical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 2); Electrical and Magnetic Measurements (Physics 4); Telegraphy and Telephony (Elect. Eng'g 4); Electrical Engineering Laboratory (Elect. Eng'g 22); Differential Equations (Math. 16).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents and Alternating Current Transformer (Elect. Eng'g 5); Electrical Distribution (Elect. Eng'g 7); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical

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Engineering Laboratory (Elect. Eng'g 23); Theory of Equations (Math. 10); Least Squares (Math. 14); Introduction to Theoretical Physics (Physics 6); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical Engineering Laboratory (Elect. Eng'g 23); Calculus of Variations (Math. 20); Introduction to Theoretical Physics (Physics 6); Investigations of Special Problems (Physics 7); Thesis.

GROUP III.—ELECTRICAL ENGINEERING

Electro-Chemical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 2); Electrical and Magnetic Measurements (Physics 4); Qualitative Analysis (Chem. 3a).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents and Alternating Current Transformer (Elect. Eng'g 5); Electrical Distribution (Elect. Eng'g 7); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Quantitative Analysis (Chem. 5a); Introduction to Theoretical Physics (Physics 6); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical Engineering Laboratory (Elect. Eng'g 21); Electro-Metallurgy (Elect. Eng'g 12); Electro-Chemical Analysis (Chem. 15c, 15d); Investigation of Special Problems (Physics 7); Thesis.

MECHANICAL ENGINEERING.

It is the object of this course to give the student a thorough training in the theoretical principles underlying the science of machines and mechanics, and at the same time to make him practically familiar with some of the numerous applications of these principles.

EQUIPMENT

The equipment of this department is arranged for work of three kinds—class and drawing room work, laboratory work, and shop practice.

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The *drawing rooms* are equipped with modern desks, boards, filing cabinets, card indexes, reference books, catalogs, odontographs, gear charts, tables, etc. In the cabinet rooms are kinematic models and sectioned steam specialties, many of which were donated by the manufacturers.

The *steam engineering laboratory* is in the *Mechanical and Electrical Engineering Laboratory.* It contains nine steam engines available for testing purposes. The facilities for boiler testing are excellent. There are several types of boilers equipped with different kinds of automatic stokers. There are also various kinds of steam and power pumps and numerous steam specialties arranged for tests.

The laboratory contains three gas engines, an air compressor, a hot air engine, a large volume fan, and a complete outfit of instruments used by the mechanical engineer for testing purposes.

The pumping station and power plants of the two cities furnish additional apparatus for experimental work.

The shops of the College are in charge of this department; they consist of a wood shop, foundry, forge shop, and machine shop.

The shops are large, well lighted and attractive; they are all equipped with modern tools and furnish abundant facilities for giving the student the necessary practice in this line of work.

Two hundred and fifty students can be accommodated with the present facilities.

COURSES OF INSTRUCTION

Required for the Degree of B.S. in Mechanical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); French 5, or German B or 1 or 4, or English 1; Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry

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(Drawing, Gen. Eng'g 2a); French 5, or German 3 or 5 or 6, or English 2; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Chemistry 1; Power Measurements (Mech. Eng'g 3); Mechanism (Mech. Eng'g 5); Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Chemistry 16; Power Measurements (Mech. Eng'g 3); Steam Boilers (Mech. Eng'g 17); Electrical Engineering (Elect. Eng'g 1); Surveying (Civil Eng'g 10).

Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Heat Engines (Mech. Eng'g 6); High-Speed Steam Engines and Valve Gears (Mech. Eng'g 14); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Graphical Statics of Mechanism (Mech. Eng'g 18); Estimates (Mech. Eng'g 10); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Economics 2 or 8; Seminary (Mech. Eng'g 19); Thesis.

RAILWAY ENGINEERING

The railroad interests of the State of Illinois, as well as of the United States, have become so important as to demand a separate recognition in the courses of those educational institutions which offer instruction in engineering.

Wishing to meet the demand for specialization along this important line the University has established an undergraduate course leading to the degree of B.S. in *Railway Engineering*, and also provides for graduate instruction and investigation in this department leading to a second degree.

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Three leading railroads of the state are coöperating in the work of this department. The department of civil engineering already furnishes special instruction relating to construction and maintenance of way. This new course will be devoted to the problems of motive power and machinery, including construction, design, and operation of locomotives and rolling stock. It will include also tests of fuel, water supply, materials, and supplies.

EQUIPMENT

The shops and laboratories of the departments of mechanical and electrical engineering, applied mechanics, and chemistry furnish abundant laboratory facilities along these special lines.

The department is rapidly acquiring a considerable amount of class room and laboratory material, such as photographs, blue prints, and samples of manufactured specialties of value to the students of this work.

This department now owns, with the P. & E. Div. of the C., C., C. & St. Louis Ry., a fully equipped dynamometer car, No. 609. It also owns, with the Illinois Central R. R., a fully equipped railway test car, No. 17.

These cars have been designed and built for locomotive and railway tests, and they are used for no other purpose. They have been built and equipped with special reference to the following service:

1. Locomotive road tests for economy.
2. Locomotive capacity tests and measurements of train resistance.
3. Automatic track inspection for line and grade.
4. Air brake service inspection.
5. Stationary plant tests at railway shops and water stations.

The department owns a continuous steam engine indicator, apparatus for determining the effect of scale deposits on the transfer of heat through the tubes, as well as con-

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siderable apparatus designed and built for various tests of locomotives in actual service.

The new railway shops of the P. & E. Div. of the C., C., C. & St. L. Ry. at Urbana furnish exceptional opportunities for inspection of construction and repair work, and the assured aid that this department will receive from the management of these shops can but be of considerable value to the student.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Railway Engineering

First, Second, and Third Years

Same as the course of instruction in mechanical engineering.

Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Locomotive Engines (Ry. Eng'g 1); Locomotive Engine Design (Ry. Eng'g 2); Shop Systems (Ry. Eng'g 3); Locomotive Road Tests (Ry. Eng'g 4); Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Compressed Air in Railway Service (Ry. Eng'g 5); Railway Estimates (Ry. Eng'g 6); Advanced Designing (Ry. Eng'g 7); Dynamometer Car Tests (Ry. Eng'g 8); Economics 2 or 8; Seminary (Mech. Eng'g 19); Thesis.

MUNICIPAL AND SANITARY ENGINEERING

This course is designed for students desiring to make a specialty of city engineering work. It prepares for the varied duties of engineer of the department of public works of cities and includes instruction in modern methods of sanitation of cities.

INSTRUCTION

Instruction is given by lectures, by text-books and seminary work, and by field, laboratory, and drafting work. The methods of training are intended to develop power to take up and solve new problems connected with municipal public works, as well as to design and to superintend the ordinary constructions. Surveying, structural materials, and structural design are taught as in the civil engineering

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course. Chemistry, botany, and bacteriology, so far as necessary to a comprehension of the questions involved in water supply and sewage disposal, are given.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Municipal and Sanitary Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1); French 5, or German B or 1 or 4, or English 1; Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2a); Shop Practice (Mech. Eng'g 1); French 5, or German B or 3 or 5 or 6, or English 2; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and Appl'd Mechanics 1, 2a); Bacteriology (Mun. and San. Eng'g 5a); Chemistry 1; Railroad Engineering (Civil Eng'g 4a); Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Road Engineering (Mun. and San. Eng'g 1); Graphic Statics and Roofs (Arch. 5); Chemistry 3a; Steam Boilers (Mech. Eng'g 17); Electrical Engineering 1.

Fourth Year

1. Bridges (Civil Eng'g 12, 13); Chemistry 20; Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Thesis.

2. Bridge Design (Civil Eng'g 13, 14a); Engineering Contracts and Specifications (Civil Eng'g 16); Mechanical Engineering Laboratory (Mech. Eng'g 13); Sewerage (Mun. and San. Eng'g 3); Water Purification, Sewage Disposal, and General Sanitation (Mun. and San. Eng'g 6); Thesis.

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PHYSICS

The courses in this department are designed to furnish the student who intends to follow the profession of engineering, science teaching, or research in physical science, with a knowledge of the phenomena and laws of physics.

EQUIPMENT

The rooms devoted to physics are in Engineering Hall. They include a large lecture room and cabinet, a large general laboratory and cabinet, several small laboratories, a constant-temperature room, a battery room, a workshop, and several private studies, laboratories, and offices.

The *lecture room* is in the form of an amphitheater, and is furnished with opera chairs provided with tablet arms. Piers at the lecture desk and in the center of the room make demonstrations with the more delicate apparatus possible. A permanent screen and rolling blinds operated by a motor facilitate illustration by lantern. The cabinet rooms adjoining the lecture room are supplied with apparatus suitable for illustration and demonstration, and are provided with conveniences for preparing apparatus for lectures.

The general laboratory is a room sixty feet square and is well lighted and ventilated. It is supplied with tables, shelves, and sinks, arranged for general experimental work. The cabinet room adjoining this laboratory contains the apparatus designed for elementary experimental work.

The *small laboratories,* six in number, are on the first floor, and are abundantly provided with masonry piers, wall shelves, sinks, dark curtains, etc. They contain a line of high-grade apparatus for advanced experimental work and research. The electrical measurement apparatus is especially complete, and there is an excellent line of apparatus from the best makers for the fundamental measurements in mechanics, heat, and light.

The *constant-temperature* room is on the first floor. It is isolated from the surrounding space by double masonry

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walls and double doors. It is arranged for such experiments as require a low, uniform temperature.

The department has a mechanician and well equipped workshop. This gives facilities for making apparatus from original designs for the general work of the department, and also for special investigations and research.

In addition to the preceding, there are a number of private studies and laboratories for the use of advanced students and instructors.

THEORETICAL AND APPLIED MECHANICS

The courses in theoretical and applied mechanics are designed to meet the needs of students of the College of Engineering. The laboratory of applied mechanics was burned in June, 1900, and the entire equipment of the materials laboratory and the hydraulic laboratory was destroyed. It is expected that a new building and new equipment will be ready by September, 1901.

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COLLEGE OF SCIENCE

FACULTY

ANREW S. DRAPER, LL.D., PRESIDENT.
STEPHEN A. FORBES, PH.D., DEAN, Zoölogy.
THOMAS J. BURRILL, PH.D., LL.D., Botany and Horticulture.
SAMUEL W. SHATTUCK, C.E., Mathematics.
CHARLES W. ROLFE, M.S., Geology.
ARTHUR W. PALMER, Sc.D., Chemistry.
FRANK F. FREDERICK, Art and Design.
SAMUEL W. PARR, M.S., Applied Chemistry.
DANIEL K. DODGE, PH.D., English.
DAVID KINLEY, PH.D., Economics.
ALBERT P. CARMAN, Sc.D., Physics.
EVARTS B. GREENE, PH.D., History.
GEORGE T. KEMP, M.D., PH.D., Human Physiology.
JACOB K. SHELL, M.D., Physical Training.
LEWIS A. RHOADES, PH.D., German.
THOMAS A. CLARK, B.L., Rhetoric.
ARTHUR H. DANIELS, PH.D., Philosophy.
GEORGE D. FAIRFIELD, A. M., Romanic Languages.
CHARLES W. TOOKE, A.M., LL.B., Public Law and Administration.
EDWIN G. DEXTER, B.PD., PH.D., Education.
EDMOND G. FECHÉT, Major U. S. A. (retired), Military.
ISABEL BEVIER, PH.M., Household Science.
EDGAR J TOWNSEND, PH.D., Mathematics.
VIOLET D. JAYNE, A.M., English.
HARRY S. GRINDLEY, Sc.D., Chemistry.

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HERMAN S PIATT, PH. D., French.
FRED A. SAGER, B.S., Physics.
FRANK SMITH, A.M., Zoölogy.
OSCAR QUICK, A.M., Physics.
GEORGE H. MEYER, A. M., German.
STRATTON D BROOKS, M.PD., Education.
MATTHEW B. HAMMOND, PH.D., Economics and Sociology.
JENNETTE E. CARPENTER, O.M., Physical Training for Women.
GEORGE A. HUFF, JR., Coach of Athletic Teams.
CHARLES T. WILDER, B.S., Photography.
WILLIAM C. BRENKE, M.S., Mathematics.
HENRY L. SCHOOLCRAFT, PH.D., History.
NEIL C. BROOKS, PH.D., German.
MARTHA J. KYLE, A.M., Rhetoric.
HENRY L. COAR, A.M., Mathematics.
WILLIAM A. ADAMS, A.B., Rhetoric and Public Speaking.
EDWARD J. LAKE, B.S., Art and Design.
LUCY H. CARSON, A.M., English.
GEORGE M. HOLFERTY, M.S., Botany.
ROBERT L. SHORT, A.B., Mathematics.
JOHN H. MCCLELLAN, A.M., Zoölogy.
JOHN L. SAMMIS, M.S., Chemistry.
FRED C. KOCH, M.S., Chemistry.
ERNEST W. PONZER, B.S., Mathematics.
JUSTUS W. FOLSOM, S.D., Entomology.
NATHAN A. WESTON, M.L., Economics.
IRA H. DERBY, B.S., Chemistry.
DAISY L. BLAISDELL, A.M., German.
FLORENCE N. JONES, A.M., French.
ROBERT W. STARK, B.S., Chemistry.
CORNELIA E. SIMON, Household Science.
HARRY B. FOX, B.S., Geology.
OTAKAR L. PROHASKA, B.S., Chemistry.
WILLIAM M. DEHN, A.M., Chemistry.
ALBERT L. MARSH, Chemistry.

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HUGH J. GRAHAM, A.B., Rhetoric.
ARTHUR R. JOHNSTON, B.S., Chemistry.
OSCAR L. HOUSEL, Military.

AIMS AND SCOPE

The College of Science is based upon the idea that the methods of science and the branches of study to which those methods are applicable present a subject-matter and a discipline ample for the purposes of a liberal education, and that an education so derived differs materially in character and value from one whose sources are mainly literary. This College is distinguished in general from the technical colleges of the University by the fact that its choice of subjects is not limited by practical ends, and from the College of Literature and Arts by the predominance, in its courses and requirements, of the strictly scientific subjects. It is articulated with the latter, however, by the liberal elections from the literary courses permitted to students who have satisfied its demands as to scientific work, and by the special courses in science open to election by students from the companion College.

It affords an opportunity for the study of the natural, physical, mathematical, and mental sciences, and of economic, sociological, and philosophical subjects, either as specialties or as the substance of a general education. The candidate for graduation may take a year each in any four of the principal subjects of this College, with a considerable amount of language, literature, and general study; he may concentrate his major work on any one of the several subjects in which major courses are offered; or he may adopt any program of concentration of his major work intermediate between these extremes. The subjects presented in this College are accordingly arranged in the following six groups; chemical and physical, mathematical, general science, pedagogical, preliminary medical, and household science, each characterized by the predominant importance and

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development of the subjects indicated by its name. The studies of each group are again divided into required and elective subjects. All the required subjects are necessary to graduation in the group of studies specified. Those of the elective lists are open to election, restricted only by certain general requirements, varying in the different groups, regarding the amount and distribution of the work to be done on them.

It is the purpose of this system of classification and requirement to permit large liberty of choice with respect both to main lines of study and to associated or secondary subjects, and at the same time so to guide the student's elections that his course of study shall always contain a central core or axis of closely articulated major work. Preference is further given by this means to those minor subjects most important because of their relations to the major work elected.

The only degree given in this College is that of bachelor of science. University credit to the amount of one hundred and thirty hours (p. 180) is required for graduation. Ten of these may be earned by investigation work, the results of which are to be presented in a final thesis. Credit will be given for fractions of courses of instruction in exceptional cases only, by vote of the college faculty.

The attention of women students is especially called to the announcement of the household science group, page 126, and also to the description of a suggested special science course for women on page 120.

EQUIPMENT

Laboratories.—The College of Science occupies three of the University buildings—the Chemical Laboratory, Natural History Hall, and the Astronomical Observatory—together with several rooms in University Hall assigned to the mathematical department and to some of the departments of the philosophical group. The physics laboratories and lecture room are in Engineering Hall, and the natural his-

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tory museum is in University Hall. The laboratories of the household science department are in the Agricultural Building.

The laboratory and library facilities of this College have been acquired with primary reference to the needs of the undergraduate student, and are scarcely surpassed, for their purpose, in grade and completeness, among American universities. The graduate student likewise finds here an ample equipment, material, and opportunity for independent investigation in several departments of study, notably in those covered by the operations of the State Laboratory of Natural History and of the State Entomologist's office.

THE CHEMICAL AND PHYSICAL GROUP

AIMS

The purposes of the chemical and physical group are:

1. To provide a training in the principles of chemistry and physics as part of a liberal education.

2. To furnish such instruction and training in these sciences as is requisite for the succesful prosecution of studies in other sciences, i. e., biology, physiology, geology, agriculture, sanitary engineering, electrical engineering, domestic economy, etc.

3. To afford opportunity for the acquisition of the technical knowledge and skill needed in the applications of chemistry in the industrial world by the analytical chemist and expert, the manager of chemical and metallurgical industries, or the scientific and manufacturing pharmacist.

4. To meet the demands of those who are preparing themselves as teachers of chemistry and physics.

5. To lay the foundation of a career as investigator in chemistry or in physics.

Suggestions as to choice of courses.—The courses in chemistry and in physics, which are outlined on pages 110 and 113, include lists of electives which afford opportunities

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for extensive range in selection of options, so that it is possible to arrange numerous combination courses directed to various specific ends.

One intending to teach chemistry and physics should take all the prescribed work of the chemical course, selecting numbers 7 and 12 among his chemical electives and taking also physics 5 or 6 and mathematics 4; he can then fill out the rest of his restricted and open electives by choice of studies from the natural science group or make choice of subjects in languages and literature, etc.; or, if he wish to devote himself more fully to physics, he should take the chemical-physical course as outlined on page 110.

A course preparatory to the study of medicine may be arranged by taking the prescribed work of the chemical course, amounting to 83½ hours' credit, selecting among the chemical electives toxicology, urinalysis, and sanitary analysis, and for the other electives taking art and design, bacteriology (botany 5), biology 1, physiology 4, psychology 2, zoölogy 2 and 3. The completion of this course will enable the student to obtain credits amounting to one year's work upon the four years' medical course at the College of Medicine of the University of Illinois, and will prepare him for specialization in medical and physiological chemistry.

Students of chemistry who intend to become commercial analysts should include among their chemical electives 5c, 8, 10, 6b, 15a, 15b, 15c, 18a, 24, 25, take bacteriology (botany 5 or 6), mineralogy 1a, and fill out the rest of their electives by the selection of subjects from the natural science group.

EQUIPMENT FOR CHEMISTRY

Laboratories.—The Chemical Laboratory is 75 by 120 feet and three stories high, including basement. The basement contains the water survey laboratory and rooms for storage and dispensing, and for work in assaying and metallurgical chemistry. The first floor has a lecture room and laboratory for general chemistry and qualitative analysis,

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each of which accommodates 150 students; a large private laboratory, and a store room. The second floor has a laboratory for quantitative analysis and organic chemistry, a balance and reading room, and a large private laboratory.

Several recitation rooms used by this department and rooms for special work in physical chemistry are in Natural History Hall.

Apparatus.—The laboratories are furnished with all of the supplies required for the various lines of work in pure and applied chemistry.

The apparatus for general use, all of which is new and of the most approved pattern and construction, includes thirty-five high grade analytical Sartorius and Troemner balances, an abundant supply of platinum ware, including combustion tubes and a large retort for making pure hydrofluoric acid, Kahlbaum's mercurial air pumps, Schmidt and Haensch saccharimeters of three different styles, complete sets of Hofmann's and Lepsius's apparatus for lecture demonstrations, Orsat's and Hempel's apparatus for gas analysis, microscopes, spectroscopes, apparatus for electrolytic analysis, etc.; for work in physical chemistry there are thermostats, Abbe's and Pulfrich's refractometers, Krüss's universal spectral apparatus with all attachments, two calorimetric bombs, one of which is lined with platinum, Beckmann's apparatus, Dumas', Hofmann's, and Meyer's vapor density apparatus, apparatus for determination of electrical conductivities. The laboratory is provided with its own dynamo, a large storage battery, and an excellent projection lantern.

A very important feature of the equipment consists of the chemical library, which, in addition to the modern, standard chemical texts, dictionaries, and encyclopedias, includes complete sets of nearly all the more important chemical journals, especially the German and English. The current numbers of many others are regularly received.

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EQUIPMENT FOR PHYSICS

For the equipment in physics see p. 99.

CHEMICAL COURSES

CLASSIFICATION OF SUBJECTS

Prescribed

1. *Chemical.*—General Elementary Chemistry (Chem. 1); 5 hours.*
   Descriptive Inorganic Chemistry (Chem. 2); 3 hours.
   Inorganic Preparations (Chem. 2a); 3 hours.
   Physical Chemistry (Chem. 7); 3 hours.
   Organic Chemistry (Chem. 9, 9a, 14); 8 hours.
   Qualitative Analysis (Chem. 3a); 5 hours.
   Quantitative Analysis (Chem. 5a); 5 hours.
   Seminary (Chem. 19); 3 hours.
2. *General.*—Advanced Algebra and Trigonometry (Math. 1, 3, or 2, 4); 5 hours.
   German B or 1, 3, 4, 5 or 6; 20 hours.
   Military Science, 1, 2; 5 hours.
   Physical Training—
   Men, 1, 3; 2½ hours.
   Women, 7, 9; 3 hours.
   Physics 1, 3; 10 hours.
   Rhetoric 2; 6 hours.

Elective

List A

First Semester—
Assaying (Chem. 15b); 2 hours.
Metallurgy (Chem. 6b); 3 hours.
Metallurgical Chemistry (Chem. 15a); 2 hours.
Sanitary Analysis (Chem. 10); 3 to 5 hours.

Second Semester—
Chemical Technology (Chem. 6a); 3 hours.
Electrolytic Analysis (Chem. 15c); 3 hours.
Food Analysis (Chem. 5c); 2 to 10 hours.
Household Chemistry (Chem. 23); 5 hours.
Industrial Chemistry (Chem. 17); 3 hours.
Iron and Steel Analysis (Chem. 8); 3 hours.
Mineral Analysis (Chem. 5b); 3 to 10 hours.
Theoretical Chemistry (Chem. 12); 3 hours.

*For explanation of "hours" see p. 180.

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Either Semester—

Agricultural Chemistry (Chem. 13); 5 to 10 hours.
Electro-Chemistry (Chem. 7d, e); 2 to 7 hours.
Proximate Organic Analysis (Chem. 21); 3 to 10 hours.
Physical Chemistry (Chem. 7); 3 to 10 hours.
Special Advanced Courses (Chem. 18a, b, c); 1 to 10 hours.
Spectroscopic Analysis (Chem. 7f); 2 to 4 hours.
Thesis Investigation (Chem. 11); 5 to 15 hours.
Toxicology (Chem. 24); 2 to 5 hours.
Urinalysis (Chem. 25); 2 hours.

List B

Botany 1, 2, 3, 5, 6, 8, 11; 2 to 29 hours.
Electrical Engineering 1, 12; 2 to 5 hours.
General Engineering Drawing 1a, b, c; 5 hours.
Geology 1, 2, 3; 5 or 10 hours.
Mathematics 6, 7, 9; 5 to 15 hours.
Mechanical Engineering 7, 16, 17; 5 hours.
Mineralogy, 1, 2; 5 or 10 hours.
Paleontology 1; 5 or 10 hours.
Physics 5; 3 to 10 hours.
Physiography 1; 5 hours.
Physiology 1, 2, 4, 5, 6; 1 to 20 hours.
Theoretical and Applied Mechanics 1, 2 or 4, 5; 7 or 8 hours.
Zoölogy 1, 2, 3, 10; 5 to 15 hours.

REQUIREMENTS FOR GRADUATION

In order to graduate in chemistry, the candidate must complete all the required courses (83½ hours), and must have at least 13 hours additional for subjects chosen from the list A of chemistry electives. For the remaining 33½ hours he must choose 15 hours of electives from list B and for the other 18½ hours must choose subjects from any University offerings, subject to the approval of the head of the department of chemistry. He must make in all 130 hours' credit, and present an acceptable thesis.

Special exceptions as to the required number of chemical options may be made for those who desire to prepare themselves as teachers of chemistry rather than as technical chemists, and for those who in preparing for the study of medicine wish to take major work in chemistry.

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COURSE OF INSTRUCTION

For the Degree of B.S. in Chemistry

First Year

1. General Elementary Chemistry (Chem. 1); German B or 1 or 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.
2. Descriptive Inorganic Chemistry (Chem. 2); German B or 3 or 6; Inorganic Preparations (Chem. 2a); Qualitative Analysis (Chem. 3a); Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. German 4; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Military 2.
2. German 5 or 6; Organic Chemistry (Chem. 9 and 9a); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Organic Chemistry, special chapters (Chem. 14); Rhetoric 2; Electives.
2. Physical Chemistry (Chem. 7); Rhetoric 2; Seminary (Chem. 19); Electives.

Fourth Year

1. Seminary (Chem. 19); Electives.
2. Seminary (Chem. 19); Electives.

APPLIED CHEMISTRY AND ENGINEERING

To meet the ends of those who wish to fit themselves for such work as devolves upon the managers of establishments in which the operations depend upon chemical processes, a four years' course in chemistry with related engineering subjects has been arranged.

REQUIREMENTS FOR GRADUATION

The requirements for graduation, as indicated on page 109, are modified as follows: The electives to be chosen from the list must include chemistry 6a and 6b, 8, and 15a; general engineering drawing 1, two subjects listed under mathematics, four under mechanical engineering, and two under mechanics, theoretical and applied.

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A thesis is required, and completion of the work leads to the degree of bachelor of science in chemistry and engineering.

COURSE OF INSTRUCTION BY YEARS AND SEMESTERS

The prescribed and chemical electives, together with the engineering subjects necessary to meet the above conditions, are indicated below.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Chemistry and Engineering

First Year

1. Drawing (Gen. Eng'g 1a, 1b, 1c); General Chemistry (Chem. 1); German B or 1 or 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Math. 6); Descriptive Inorganic Chemistry (Chem. 2); Qualitative Analysis (Chem. 3a); German B or 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Differential Calculus (Math. 7); German 4; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Shop Practice (Mech. Eng'g 1); Military 2.

2. Chemical Technology (Chem. 6); Integral Calculus (Math. 9); German 5 or 6; Iron and Steel Analysis (Chem. 8); Physics 1, 3; Rhetoric 2; Shop Practice (Mech. Eng'g 1); Military 2.

Third Year

1. Analytical Mechanics (Theo. and Appl'd Mech. 1 or 4); Metallurgical Chemistry and Assaying (Chem. 15a); Metallurgy (Chem. 6b); Shop Practice (Mech. Eng'g 2); Steam Engines (Mech. Eng'g 16).

2. Electrical Engineering 1; Electro Chemistry (Chem. 15b); Organic Chemistry (Chem. 9 and 9a); Resistance of Materials (Theo. and Appl'd Mech. 2 or 5); Seminary (Chem. 19); Steam Boilers (Mech. Eng'g 17); Shop Practice (Mech. Eng'g 2).

Fourth Year

1. Organic Chemistry (Chem. 14); Seminary (Chem. 19); Chemistry, special advanced subjects (selected from Chemistry 12, 15a, 17, 18, 19); Steam Engines (Mech. Eng'g 16); Thermodynamics (Mech. Eng'g 7); Thesis and Investigation (Chem. 11).

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2. Chemistry, special subjects (selected from Chem. 15b, 18a, 18d, 19; Physical Chemistry (Chem. 7); Steam Boilers (Mech. Eng'g 17); Thesis and Investigation (Chem. 11).

PHYSICAL COURSES

CLASSIFICATION OF SUBJECTS

Prescribed

Chemistry 1, 2; 8 hours (p. 112).
French 1, 2, 5; or German B or 1, 3, 5 or 6; 20 hours.
Mathematics 2 (Advanced Algebra); 3 hours.
Mathematics 4 (Trigonometry); 2 hours.
Mathematics 6 (Analytical Geometry); 5 hours.
Mathematics 7 (Differential Calculus); 5 hours.
Mathematics 9 (Integral Calculus); 5 hours.
Military 1, 2; 5 hours.
Physical Training—
Men, 1, 3; 2½ hours.
Women, 7, 9; 3 hours.
Physics 1, 3; 10 hours.
Rhetoric 2; 6 hours.

Elective

List A (Physical)

Physics 5 and 6; 12 or 16 hours.
Physics 7; 6 or 10 hours.
Physics 8; 6 hours.
Mathematics 10 (Theory of Equations); 3 hours.
Mathematics 16 (Differential Equations); 3 hours.
Astronomy 4, 5; 5 to 10 hours.

List B (Chemical-Physical)

Physics 5 and 6; 12 or 16 hours.
Physics 7; 6 or 10 hours.
Chemistry 3a; 5 hours.
Chemistry 9, 9a; 5 hours.
Chemistry 5a; 5 hours.
Chemistry 5b; 3 or 5 hours.
Chemistry 12; 3 hours.
Chemistry 7; 5 to 15 hours.

REQUIREMENTS FOR GRADUATION

The foregoing courses have been arranged for those who wish to prepare themselves for special work in physics

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and allied sciences. In addition to the subjects of the prescribed list, two general lines of work are offered under elective lists A and B, one of which must be taken with the list of prescribed subjects. The advanced theoretical work of the first of these lines is largely general mechanical physics; that of the second more especially chemical. The laboratory work follows the same lines. The additional studies necessary to complete the number of hours required for graduation may be elected from the various University courses, with the approval of the head of the department of physics.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Physics

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); German B or 1 or 4; Chemistry 1; Rhetoric 2; Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Math. 6); German B or 3 or 5 or 6; Chemistry 2, 4; Chemistry 3a, or Rhetoric 2; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Physics 1, 3; Differential Calculus (Math. 7); Rhetoric 2; German 4, or Chemistry 5a; Military 2.

2. Physics 1, 3; Integral Calculus (Math. 9); Rhetoric 2; German 5 or 6, or Chemistry 5b; Chemistry 12; Military 2.

Third Year

Physics 5, 6; Mathematics 10, 16; Astronomy 4, or Chemistry 7; Electives.

Fourth Year

Physics 7, or Physics 7, 8; Electives.

It will generally be necessary to follow the above, but other arrangements consistent with sequences of courses may be made in special cases.

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DESCRIPTION OF DEPARTMENTS

CHEMISTRY

The chemical offerings include courses of instruction in general elementary, inorganic, organic, physical, and theoretical chemistry, and several lines of qualitative and quantitative analysis. (See *Chemistry,* in DESCRIPTION OF COURSES, p. 201.)

The first year is devoted to the consideration of general descriptive inorganic chemistry and qualitative analysis, the first half of the second year is occupied with courses in quantitative analysis, both gravimetric and volumetric, and the second half year is given to general organic chemistry. The work of these two years and that of the first half of the third year, which is devoted to more advanced organic chemistry, is prescribed for all students of the chemical courses, and is intended to impart a knowledge of the facts of chemistry, to develop skill and accuracy in manipulation, and to constitute a scientific grounding in the fundamental principles and laws of chemistry.

Aside from this prescribed work there are offered numerous electives in chemistry, which, by judicious selection, afford opportunity for specialization along any of the lines of analytical, pharmaceutical, technological, or pure chemistry.

In order that an acquaintance with chemical literature may be had, and to keep pace with the advances in chemistry, students of the third and fourth year are required to take part in the chemical seminary, in which the work consists chiefly of reviews and discussions of assigned articles in current numbers of the various journals.

One or two semesters' work in the fourth year must be devoted to the investigation of some chemical problem. This practice furnishes an opportunity to specialize along some chosen line and serves as an introduction to the methods of chemical research.

To students who are preparing to become teachers of

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physical science opportunity is offered for the acquirement of some experience in supervising laboratory practice in elementary chemistry. The work includes criticism and discussion of methods and application of pedagogical principles and is conducted with the coöperation of the department of pedagogy.

APPLIED CHEMISTRY

In this department there are offered ten separate courses in technological subjects. These require as preliminary work the seven general and analytical courses. They may be further supplemented by special advanced work along some chosen line. Frequent visits are made to metallurgical and other works employing chemical processes.

PHYSICS

The department of physics offers a lecture course in general descriptive physics with class-room experiments, extending through the year, and accompanied by an introductory laboratory course in physical measurements. This is followed by two courses, one experimental and the other theoretical. In the experimental course the student is trained in the most exact methods of making the fundamental physical measurements and taught how to discuss his results. The theoretical course running parallel to this discusses, with the aid of elementary calculus, the theory of some of the main subjects of physics. In the senior year the student is supposed to take up some special problem for investigation and to center his laboratory work about that. An advanced mathematical course is also offered for those who wish to follow the most advanced theories and results of the science.

THE GENERAL SCIENCE GROUP

AIMS

The courses of the general science group are especially intended:

1. To give a thorough liberal education with a basis in the sciences, objective and subjective.

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2. To prepare for the pursuit of specialties in the various sciences as a personal career.

3. To prepare for the teaching of the mathematical, natural, or physical sciences in high schools and colleges.

Special advantages are offered graduate students for whose work the museums, laboratories, and libraries, and the field and experimental equipment of the University and of the associated State Laboratory of Natural History, furnish an extraordinarily full provision.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Art and Design, 1, 2; 2 hours (p. 180).
Chemistry 1, 3a or 3b and 4; 10 hours.
German B or 1, 3, 4, 5 or 6; 20 hours.
Mathematics 3 or 4; 2 or 3 hours.
Military Science 1, 2; 5 hours.
Physical Training—
  Men, 1, 3; 2½ hours.
  Women, 7, 9; 3 hours.
Rhetoric 2; 6 hours.

ELECTIVE

List A (Major Courses)

Astronomy 4 to 6; 3 to 10 hours.
Botany 1 to 5, 7, 9, 10; 10 to 44 hours.
Chemistry; 3 to 50 hours.
Entomology 2, 3, 5, 6; 5 to 30 hours.
Geology 1, 2, 4; 5 to 20 hours.
Mathematics 1, 3, 5 to 26; 2 to 50 hours.
Mineralogy 1, 2; 5 or 10 hours.
Paleontology 1; 5 or 10 hours.
Physics; 10 to 20 hours..
Physiography 1; 5 hours.
Physiology 1, 2, 3, 5; 10 to 30 hours.
Psychology 1 to 8; 16 hours.
Zoölogy 1, 2, 3, 4, 8, 9; 5 to 45 hours.

List B (Minor Courses)

Botany 11; 5 hours.
Geology 3; 5 hours.

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Physics 2; 5 hours.
Physiology 4; 5 hours.
Zoölogy 10; 5 hours.

The major and minor courses in lists A and B in this group are respectively the maximum offerings and the minimum requirements in the various subjects of these lists.

REQUIREMENTS FOR GRADUATION

In the general science group a student may graduate from either a specialized or a general course.

A specialized course is one containing at least two years of major work in a single subject preceding the senior year, followed by an additional year of major work in that subject, and the writing of an acceptable thesis. No student may be enrolled in a specialized course without the permission of the head of the department in which he wishes to do his principal work. Only those students who pursue a specialized course will, as a rule, be selected for fellowships, scholarships, and other similar University honors. A general course is one in which less than three years' work in any one line precedes graduation, and in which no thesis is required.

Students who specialize in geology or mineralogy may count all work done in these branches and their credits in chemistry in the list of credits required before the beginning of the senior year.

No student may graduate in general science until he has completed all the required courses, has done at least thirty hours' work on one major elective, or forty hours' work on more than one such major (list A), and has taken at least minor courses in all the other electives in which such courses are offered (list B). The necessary number of one hundred and thirty hours for University studies may be made up by additional elections from any courses offered in the College of Science or in the College of Literature and Arts the precedent requirements for which the student can meet.

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A graduate from a four years' medical course at a school recognized by the University as of high rank may, if a matriculated student, receive for his professional medical studies credits in this group equal to one year's resident study at the University, being thus enabled to obtain his bachelor's degree in science after a three years' University course.

A student taking a three years' course of prescribed science work (see page 141), followed by three years of professional work at the University Medical College, may obtain for this joint six years' course the degrees of bachelor of science and doctor of medicine.

COURSES OF INSTRUCTION

The following list of prescribed studies and major electives shows the semesters in which the principal studies of the natural science group must be taken. The prescribed studies, which are in italics, must be taken also in the year indicated. Students intending to graduate from a specialized course should begin the study of their special subjects at the earliest time practicable. *In making up the study list for any semester, students should take the subjects italicized and select from the remainder enough to make the requisite amount of work.*

First Year

1. *Art and Design* 1; *Chemistry* 1; *Mathematics* 3 or 4 *(Trigonometry)*; *Military* 2; *Physical Training* 1, 3 or 7, 9; Mathematics 1 or 2 (Advanced Algebra); Botany 2, 11; Zoölogy 10.

2. *Chemistry* 2, 3a, or 3b and 4; *Military* 1, 2; *Physical Training* 1, 3 or 7; Mathematics 6; Physics 2; Art and Design 2; Botany 1, 5; Entomology 1; Zoölogy 1.

Second Year

1. *German* B or 1 or 4; *Military* 2; Mineralogy 1; Physics 1, 3; Botany 2, 3, 4, 11; Entomology 2, 4; Zoölogy 2, 10; Mathematics; Psychology; Chemistry.

2. *German* B or 3 or 4 or 6; *Military* 2; Geology 1, 3; Physics

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1, 3; Botany 1, 3, 4, 5; Entomology 1, 3; Zoölogy 1, 3, 4, 9; Physiology 4; Mathematics; Psychology; Chemistry.

Third Year

1. *German* 4; *Rhetoric* 2; Geology 2; Physiography 1; Mineralogy 1; Botany 2, 3, 4, 7, 8, 10, 11; Entomology 2, 4, 5; Zoölogy 2, 4, 10; Physiology 5; Mathematics; Psychology; Chemistry.

2. *German* 5 or 6; *Rhetoric* 2; Geology 1, 3; Mineralogy 2; Paleontology 1; Botany 1, 3, 4, 5, 7, 10; Entomology 1, 3, 5; Zoölogy 1, 3, 4, 9; Physiology 4, 5; Chemistry.

Fourth Year

1. French 5; Geology 2, 4 (Thesis); Physiography 1; Botany 3, 4, 7, 9 (Thesis), 10; Entomology 2, 4, 5, 6 (Thesis); Zoölogy 2, 4, 8 (Thesis). 10; Mathematics; Chemistry; Psychology; Electives from the College of Literature and Arts.

2. French 5; Geology 3, 4 (Thesis); Mineralogy 2; Paleontology 1; Botany 3, 4, 7, 9 (Thesis), 10; Entomology 1, 3, 5, 6 (Thesis); Zoölogy 1, 3, 4, 8 (Thesis), 9, 10; Mathematics; Chemistry; Psychology; Electives from the College of Literature and Arts.

SPECIAL SUGGESTED COURSES

As aids to election a number of outline courses have been arranged, covering all the requirements for graduation, and making such a selection of studies within these limits as is best adapted to certain special ends. These courses are to be taken as suggestions only, made for the convenience of students. Students having definite objects in view which require a careful selection of studies are advised to consult with the Dean of the College before arranging their study lists. Outlines of specialized courses in each department may be had from the heads of departments, and complete tabulated outlines of the following described courses may be obtained from the Dean of the College.

Courses for Teachers.—Four tabulated courses have been prepared for the benefit of prospective science teachers. These include a general science teacher's course, and courses for special teachers of biology, of physics and chemistry, and of geology and physiography. These courses are intended

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especially to prepare for the work of the science teacher in secondary schools, and with a proper course of graduate study following will also fit for instruction work in college science.

Special Course for Women.—A suggested course covering the requirements for graduation in the general science group, but containing also certain courses of instruction which have a special bearing on the management of the home, has been arranged especially for women students who wish a general science education without meeting in full the special requirements of the household science group in this College. A copy of this course may be had by application to the Registrar of the University or the Dean of the College.

BOTANY

Eleven courses of instruction are offered in this subject, each extending through one semester or through the year. The first two courses, each of one semester, are intended to serve a double purpose of an introduction to the work which follows for students making botany a specialty, and to afford other students an opportunity to gain the general facts of the science and to acquaint themselves with the methods of instruction. Each course as enumerated counts as major work. To a very large extent natural objects are studied rather than books, but constant endeavor is made to introduce students to pertinent existing literature. In the laboratory much use is made of the compound microscope, and special attention is given to its manipulation for best results and to the preparation of objects. Course 8 is devoted to economic botany. Course 11 is an introductory one for those not offering entrance credits in the subject.

EQUIPMENT

The botanical laboratories are: One of large size with full equipment of microscopes, microtomes, aquaria, models, charts, etc., for general work; one specially arranged and

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fitted up for bacteriological instruction and investigation, supplied with sterilizers, thermostats, microscopes, a full line of glassware, metal vessels, and chemicals; one adjoining the latter and used in connection with it for vegetable physiology, and having attached a glazed structure, two stories in height, well adapted to facilitate experiments upon living plants and for the growth of specimens required in the laboratories. The department is furnished with a lecture-room; a room for the herbarium and facilities for work in connection therewith; workrooms for the preparation of specimens and material; storage-rooms for apparatus, utensils, reagents, and materials; darkroom for photography; rooms for offices—all in convenient association and provided with the necessary materials and apparatus for ordinary class work and for advanced research.

Special attention has been given to parasitic fungi; and the collection of specimens and of the literature upon the subject are ample for various lines of original investigation.

ENTOMOLOGY

It is the special purpose of the offerings in this department to utilize to the utmost for purposes of instruction the unusual opportunities for practical entomological experience, and the very large entomological collections, library, and equipment belonging to the University or made immediately available to students by the State Laboratory of Natural History and the office of the State Entomologist, both permanently established here. The entomological work of the Natural History Survey, now prosecuted continuously, and the scientific and economic studies of the State Entomologist and his assistants, give to entomological students extraordinary privileges of experience in the laboratory, the office, and the field in both scientific and economic work.

Several courses of systematic study, elementary and advanced, are conducted by an instructor responsible only for

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entomological teaching, and graduate work in this department will be fully provided for according to demand. Six courses are offered: one in biological entomology, without conditions precedent; one in practical and economic entomology, also unconditioned; two independent, but related, semester courses making together a year of major work, with a year's zoölogy, or a semester of elementary entomology, as a precedent requirement; and two advanced courses, for those specializing in entomology, leading to graduation with an entomological thesis.

EQUIPMENT

The instructional equipment of this department consists of a well-furnished special laboratory for students, with an ample general apparatus for field work, and two special collections, one for reference by students engaged in the determination of species, and the "Bolter collection" of 100,000 specimens—maintained separately by the University and open to advanced students under suitable restrictions. The department also owns numerous *papier-mache* models and a large collection of wall charts, together with an extensive series of microscopic slides especially prepared for students' use.

GEOLOGY, MINERALOGY, AND PHYSIOGRAPHY

In this department four courses are offered in geology, two in mineralogy, one in paleontology, and one in physiography.

For students who wish more than a general acquaintance with these subjects, courses aggregating forty-five hours of class room and laboratory instruction have been arranged in geology, mineralogy, and paleontology, viz., mineralogy 1, 5 hours; geology 1 and 2, 10 hours; mineralogy 2, 5 hours; physiography 1, 5 hours; paleontology 1, 10 hours; geology 4, 10 hours.

To those who desire merely an outline of the most prom-

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inent facts and theories of geology, with some idea of the methods by which the geologist arrives at his conclusions, a course of five hours (geology 3) is offered.

EQUIPMENT

The department occupies three students' laboratories. an instructors' laboratory, a lecture room, two collection rooms, a store room, a dark room for photography, and a private office.

Apparatus.—The laboratories contain individual desks for fifty-six students. Each desk is furnished with reagent bottles, Bunsen burners, and all the other apparatus now considered necessary to a complete outfit for blowpipe work in a first-class laboratory. They are also provided with a spectroscope, specific gravity and analytical balances, chemical hoods, a muffle furnace, contact and reflecting goniometers; lithological microscopes; crystal models (575); thin sections of minerals and rocks (745); an apparatus for cutting and grinding thin sections of rocks, with a Jenney motor; apparatus for micro-chemical analysis; a self-registering barometer; an aneroid barometer and a telescopic hand level for topographic work.

For the recitation room there is a set of Kiepert's physical maps; Ramsay's orographic map of the British Isles; Haart's Alps; Chauvanne's Asia; Sydow-Habenicht's Hand Atlas; geological and soil maps of Illinois; a series of geological maps of the United States, representing land development during the successive periods; a set of charts illustrating orography, erosion, deposition of metals, etc., a set of physiographic models; a series of relief maps; 600 topographic sheets and a large contour map of the United States from the U. S. G. S.; a complete lantern outfit, with microscopic and solar attachment; seven hundred lantern slides; an equipment for photography and the manufacture of lantern slides.

Materials.—The collection of fossils comes principally from the paleozoic, but includes a representative series from

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the higher groups. It contains 45,000 specimens (seven hundred and forty-two of the types described in the reports of the Illinois geological surveys are included) and 200 thin sections of corals and bryozoa.

The collection of minerals contains 10,900 specimens, and that of rocks 5,500 specimens, among which is a large number of polished granites, marbles, and other ornamental building stone.

There is also a collection of Illinois soils containing 104 specimens; and a large collection of Illinois clays with their manufactured products.

PHYSIOLOGY

The special objects of the courses in physiology are as follows: (1) To give to prospective students of medicine a detailed practical knowledge of the normal histological structure and vital processes of the body, and a working familiarity with the instruments of precision used in the investigation of disease. (2) To give to students of all branches of biology a training in deducing logically necessary conclusions from data obtained by their own observations. (3) To furnish such a knowledge of physiology as will serve as a basis for future studies in hygiene.

The laboratory method of instruction is chiefly followed, supplemented, when desirable, by lectures, demonstrations, references to standard literature, and recitations. The laboratory work predominates in the major and advanced courses; the lectures, demonstrations, and recitations in the minor course.

EQUIPMENT

The department of physiology occupies four rooms in Natural History Hall; a general laboratory, a lecture room and a private laboratory on the top floor and an animal room in the attic. The general laboratory, thirty-five by fifty-six feet, is fitted at one end with desks of the most approved pattern for chemical and similar work, and at the

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other end with heavy tables, especially designed for use with the microscope and other apparatus requiring a stable support.

The department is equipped with a full set of apparatus for lecture demonstration and for laboratory work. Much of this apparatus has been recently imported from Europe and is of the latest and best pattern. Much of it is adapted to the most delicate work of demonstration or research, and is not to be found in the average physiological laboratory. Among such apparatus may be mentioned a Zeiss microspectroscope for work with minute quantities of material—as blood stains in medico-legal investigations; a hæmocytometer of Gowers and of Thoma-Zeiss; Fleischl's hæmometer, DuBois Reymond induction coil, latest pattern; DuBois Reymond myographion with tuning fork and Desprez signal for measuring intervals of less than one-thousandth second; ergograph; Zimmermans-Ludwig's drum kymograph, latest pattern; Fick kymograph; sphymograph (Marey); Fleischl's spectro-polarimeter; Knop azotometer; a Kjeldahl apparatus and a complete set of Hempel's apparatus for gas analysis (technical).

The histological equipment includes a Bausch & Lomb microscope with nosepiece and sub-stage illumination for use of each student, and all the accessory apparatus and reagents for class work or research in histology. There is also a cabinet of histological specimens to which the students have access for study or reference, but the subject is taught with all the details of technique, and the student is required to prepare and examine his own material, and the specimens thus prepared remain his own property, and are of considerable value.

ZOÖLOGY

Seven undergraduate courses are taught in this department, and work is offered in three graduate courses. Students will ordinarily begin their work in zoölogy with course 10 (elementary zoölogy), of which only a part, taken as a

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fractional course, will be required of those who have an entrance credit in zoölogy or biology. The courses are so organized as to lead through zoölogy 10, 1, and 2 to the course especially designed for teachers (zoölogy 9), or to advanced zoölogical work; through zoölogy 10 and 1 (invertebrate zoölogy) to general entomology; through zoölogy 10 and 2 (vertebrate zoölogy) to embryology and physiology and the University preparation for medical study.

EQUIPMENT

The equipment of the zoölogical department is contained in three students' laboratories, an instructor's laboratory, a lecture room, a private office, a store room, and a dark room for photography. It includes forty-four compound microscopes of modern makes, microtomes of five patterns, and the usual equipment of incubators, paraffin baths, aquaria, etc. Advanced and graduate students have the free use of the library and equipment of the State Laboratory of Natural History, which occupies rooms in Natural History Hall. They are thus afforded ample opportunity for prolonged original work in several departments of zoölogical science, especially in those relating to the zoölogy of Illinois. The Bulletin of the State Laboratory is open to graduates for the publication of their papers.

HOUSEHOLD SCIENCE GROUP

AIMS

1. To give a liberal education with a basis of pure and applied science.

2. To provide for women students, specializing in science, an opportunity for the correlation of their work with special applications of science to the home.

This group of courses includes those subjects whose applications have a definite relation to the affairs of the home. It is thought that by the correlation of the distinctive household science courses with some of the regular courses given

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in the various colleges of the University unusual facilities will be provided for a study of the applications of art and science to the affairs of the household.

In accordance with these ideas, in addition to general courses in chemistry, botany, zoölogy, physics, physiology, and art and design, the course contains a year's work in household chemistry, special semester courses in application of chemistry and bacteriology to the household; preparation and selection of food; architecture, and economics. These added to the courses in mathematics and German necessary to graduation in the general science group yet leave the student opportunity for much elective work.

For description of the department of Household Science see p. 150.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Art and Design 1b, 16; 4 hours.
Botany 1, 5; 10 hours.
Chemistry 1, 3b, 4, 5a or 20, 5c; 20 hours.
German 1, 3, 4, 5 or 6; 20 hours.
Household Science 1, 2, 3, 4 and 5; 15 hours.
Mathematics 3 or 4; 3 or 2 hours.
Physics 2; 5 hours.
Physiology 4; 5 hours.
Rhetoric 2; 6 hours.
Zoölogy 10; 5 hours.
Physical Training 1, 3; 2½ hours; or 7, 9; 3 hours.

SUGGESTED ELECTIVES

Botany 8; 2 hours.
English 1; 5 hours.
Economics 17; 2 hours.
French 1; 5 hours.
History 2; 2 hours.
Psychology 2; 5 hours.
Education 3; 3 hours.

REQUIREMENTS FOR GRADUATION

No student may graduate in the household science group until she has completed the prescribed course. The neces-

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sary number of one hundred and thirty hours for university studies may be made up by additional electives from any courses offered in the College of Science or in the College of Literature and Arts, the precedent requirements for which the student can meet.

COURSE OF INSTRUCTION

For the Degree of B.S. in Household Science

First Year

1. Art and Design 1b; Chemistry 1; Mathematics 4; Rhetoric 2; Zoölogy 10.
2. Household Science 1; Chemistry 3b and 4; Physics 2; Rhetoric 2.

Second Year

1. Chemistry 5a or 20; German 1; *Household Science 5; Art and Design 16.
2. Chemistry 5c; German 2; Botany 1; Art and Design 16.

Third Year

1. Botany 5; German 4; Household Science 2; *Household Science 4.
2. German 5 or 6; Household Science 3; *Household Science 4.

Fourth Year

See requirements for graduation and list of suggested electives.

THE MATHEMATICAL GROUP

AIMS

The mathematical group aims to lay the mathematical foundation for special work in any one of three lines, as well as to offer an opportunity for advanced work. It is hoped that the courses offered will meet the requirements of those who need mathematics as a tool as well as of those who wish to make it a specialty.

Parallel to the pure mathematics two lines of associated work in applied mathematics are offered, namely, in physics and astronomy. Either of these may be taken by the stu-

*Household Science 4 will be given each term in 1901-1902. Household Science 5 may be given each term in 1901-1902. For a description of the work and the equipment of the Department of Household Science, see pages 150, 151.

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dent wishing to graduate from this group. The one leads through the physics of the sophomore year to the mathematical theory of electricity and magnetism, heat, light, and sound; the other through surveying to celestial mechanics and general and mathematical astronomy. In addition to these, a course in astronomy and physics is offered, including the mathematics through the junior year, but leading to theoretical astronomy and advanced physics in the senior year.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

General Engineering Drawing 1a, 1b; 5 hours (p. 171).
Mathematics 1, 3, 6, 7, 9, 10, 11, 16, 17, 20, 25; 36 hours.
Military Science 1, 2; 5 hours.
Physical Training—
Men, 1, 3; 2½ hours.
Women, 7, 9; 3 hours.
Rhetoric 2; 6 hours.

ELECTIVE

List A (Mathematics and Astronomy)

Mathematics 13, 23 or 12, 18 or 24; 6, 9 or 12 hours.
Mathematics 21, 22, or Astronomy 7, 9; 6 hours.
Mathematics 15, or Astronomy 10; 2 hours.
Astronomy 4, 5, 6; 10 hours.
Physics 1, 3; 10 hours.
Civil Engineering 10; 3 hours.
French 1, 2, 5; or German B or 1, 3, 4, 6; 20 hours.

List B (Mathematics and Physics)

Mathematics 13, 23 or 12, 18 or 24; 6, 9, 12 hours.
Mathematics 15; 2 hours.
Physics 1, 3, 5, 6; 20 hours.
French 1, 2, 5; or German B or 1, 3, 4, 6; 20 hours.

List C (Astronomy and Physics)

Astronomy 7, 9, or Mathematics 21, 22; 6 hours.
Astronomy 4, 5, 6; 6 hours.
Astronomy 10; 4 hours.
Mathematics 26; 2 hours.
Physics 1, 3, 5, 6; 15 hours.
Civil Engineering 10; 3 hours.
German B or 1, 3, 4, 5 or 6; 20 hours.

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List D

Mathematics 14, 26; 4 hours.
Anthropology 1; 3 hours.
Botany 1, 2, 11; 5 or 10 hours.
Chemistry 1, 3a or 3b, 4; 5 or 10 hours.
Economics 1 or 2 to 8, 11 to 17; 2 to 34 hours.
English 1, 2; 10 hours.
French 1, 5, 2; or German B or 1, 3, 4, 5 or 6; 20 hours.
Geology 1, 3; 5 to 15 hours.
History 1, 2; 2 to 10 hours.
Latin 1; 10 hours.
Library Science 12; 1 hour.
Mineralogy 1, 2; 5 or 10 hours.
Education 1 to 8; 3 to 20 hours.
Philosophy 1 to 8; 2 to 24 hours.
Physiology 4 or 1; 5 or 10 hours.
Psychology 1 to 5; 3 to 24 hours.
Public Law and Administration 1 to 7; 2 to 29 hours.
Theoretical and Applied Mechanics 1; 5 hours.
Zoölogy 1, 2, 7, 10; 5 to 15 hours.

REQUIREMENTS FOR GRADUATION

To graduate as a bachelor of science in the mathematical group, it is necessary for the student to complete the list of prescribed subjects, together with those of any one of lists A, B, or C of electives, and to present an acceptable thesis. The necessary number of 130 hours may then be made up by election from lists A, B, C, and D.

COURSES OF INSTRUCTION BY YEARS AND SEMESTERS

The studies of the mathematical group may best be taken according to the following outlines of courses in mathematics and physics, in mathematics and astronomy, and in astronomy and physics, respectively.

COURSE OF INSTRUCTION

For the Degree of B.S. in Mathematics and Physics

First Year

1. Plane and Spherical Trigonometry (Math. 3); Advanced Algebra (Math. 1); Engineering Drawing 1a, 1b; French 1 or 5, or

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German B or 1 or 4; Military 2; Physical Training 1, 3 or 7, 9; Rhetoric 2.

2. Analytical Geometry (Math. 6); French 1 or 5, or German B or 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7; Rhetoric 2; Electives.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; French 2 or German 4; Military 2.

2. Integral Calculus (Math. 9); French 2 or German 5 or 6; Military 2; Physics 1, 3.

Third Year

1. Theory of Equations (Math. 10); Theory of Determinants (Math. 11); Differential Equations (Math. 16); Physics 5; Electives.

2. Geometry of Space (Math. 17); Calculus of Variations (Math. 20); Partial Differential Equations (Math. 25); Physics 5; Electives.

Fourth Year

1. Modern Geometry (Math. 23), or Invariants (Math. 12), or Theory of Functions (Math. 13); Physics 6; Mathematical Seminary and Thesis (Math. 15); Electives.

2. Higher Plane Curves (Math. 18), or Algebraic Surfaces (Math. 24), or Theory of Functions (Math. 13); Physics 6; Mathematical Seminary and Thesis (Math. 15); Electives.

COURSE OF INSTRUCTION

For the Degree of B.S. in Mathematics and Astronomy

The freshman and sophomore years are the same as in the preceding scheme except that surveying (C. E. 10) is required the first year and that astronomy 4 takes the place of physics 1, 3, of the second semester, second year.

Third Year

1. Theory of Equations (Math. 10); Theory of Determinants (Math. 11); Least Squares (Math. 14); Calculus of Variations (Ast. 11); Astronomy 5; Electives.

2. Differential Equations (Math. 16); Partial Differential Equations (Math. 25); Astronomy 6; Geometry of Space (Math. 17); Electives.

Fourth Year

1. Theory of Functions (Math. 13); Astronomy 7; Astronomy 10 or Math. 15; Electives.

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2. Theory of Functions (Math. 13); Astronomy 9; Astronomy 10 or Math. 15; Electives.

COURSE OF INSTRUCTION

For the Degree of B.S. in Astronomy and Physics

Freshman and sophomore years same as before excepting that astronomy 4 is required in the sophomore year.

Third Year

1. Astronomy 5; Least Squares (Math. 14); Theory of Equations (Math. 10); Theory of Determinants (Math. 11); Differential Equations (Math. 16).

2. Astronomy 6; Calculus of Variations (Math. 20); Partial Differential Equations (Math. 25); Geometry of Space (Math. 17); Electives.

Fourth Year

1. Astronomy 7; Physics 5, 6; Electives.
2. Astronomy 9; Physics 5, 6; Electives.

DESCRIPTION OF DEPARTMENTS

ASTRONOMY

The instruction given in astronomy is planned to meet the needs of four distinct classes of students, viz.: (a) those who do not wish to take the time necessary to become thoroughly familiar with the facts, principles, and methods of the science, but who desire a general acquaintance with its present state and some idea of how this state has been reached; (b) engineers whose work necessitates a practical knowledge of some parts of it; (c) those students of the College of Science who wish to specialize in the geological and biological sciences, and who require a more intimate acquaintance with astronomy than can be got in one term's work; (d) those students who wish to make astronomy their specialty.

In the first courses of instruction the work of the laboratory is subordinated to that of the recitation room, but as soon as the general notions of the science become fixed in his mind, the student is required to take data and solve prac-

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tical problems in the Observatory. After the student has been given sufficient practice to enable him to comprehend and appreciate the more advanced subjects of theoretical astronomy, an opportunity is provided him to familiarize himself with these subjects by the lectures and work of the senior year.

For students of class (a), course 4, presupposing mathematics through trigonometry only, is offered; for the second, courses 4 and 6, requiring the same preliminary mathematics and a term's experience in practical work with instruments, is given; for the third, courses 4, 5, and 6, extending through four terms and requiring the same mathematical preparation as course 4; and for the fourth class, all astronomical courses from 4 to 13, inclusive, are offered. Courses 7 and 9 are to be given in alternate years with 12 and 13. The courses in astronomy 7, 9, and 10, as also 12 and 13, count either as graduate or as undergraduate work, but neither set can count for both. The subjects treated in the astronomical seminary will be related to those considered in courses astronomy 7 and 9, and 12 and 13, respectively.

EQUIPMENT

The equipment of the astronomical department consists of a students' astronomical observatory, containing the following instruments:

An equatorial telescope of 12 inches aperture, the optical parts of which are by Brashear. The instrument was built and mounted by Warner & Swasey. It is provided with graduated circles, driving clock, filar micrometer, a complete set of positive and negative eyepieces, and a dial for setting in right ascension. The construction of the telescope is such that spectroscopic, or photographic, apparatus may be attached without further work on the mechanician's part; a new 4-inch equatorial by Saegmüller with graduated circles, driving clock, and eyepieces, and an old 4-inch equatorial by Newton & Co., to be used in photometric eye

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estimates; a combined transit and zenith telescope by Warner & Swasey, with the usual micrometer and a number of smaller instruments, such as chronometers, a Riefler clock, a polarizing photometer, an altazimuth, two chronographs, an Eastman personal equation machine, two sextants with mercurial horizons, two small astronomical transits, one of 21 inches focal length and $1\frac{7}{8}$ inches aperture, by Saegmüller, and one 24 inches focal length and 2 inches aperture, by Newton & Co.; a Green's barometer and thermometer, a mier mark, and half a dozen masonry piers for portable instruments for the use of students in practical astronomy. A master clock for the electrical control of secondary clocks in the various buildings on the campus is mounted in the clock room of the Observatory.

MATHEMATICS

The courses offered in pure mathematics are so arranged as to meet the needs (a) of those who desire such mathematical knowledge as is necessary to carry on investigation in some line of applied mathematics, and (b) of those who wish to make mathematics a specialty. The instruction is given, for the most part, by the aid of text-books, but several of the advanced courses are given by lectures with collateral reading. To cultivate a spirit of independent investigation, all senior and graduate students who make mathematics their major, are required to take in connection with their thesis a year's work (two-hour study) in the mathematical seminary, where the results of their investigation are presented and discussed. To the seniors and graduate students two lines of work in pure mathematics are offered, and each is given in alternate years.

Courses 10 to 26 count either as graduate or undergraduate work, but in no case as both.

EQUIPMENT

The department is supplied with eighty-five of Brill's mathematical models. The collection includes an excellent

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set of plaster models illustrating the properties of surfaces of the second order, a set of string models for ruled surfaces, a set of paper models illustrating the real circular sections of certain conicoids, a complete set of Brill's models for the theory of functions, and a collection of surfaces of third order.

THE PEDAGOGICAL GROUP

AIMS

This group is intended for the students of the College of Science who are looking forward to the profession of teaching. The secondary schools of to-day are demanding fully prepared teachers. This preparation does not mean simply a familiarity with the content of the subjects to be taught, but a knowledge of the best methods of their presentation. It must include a study of school subjects as such, both in their relation to the modern school curriculum and to the growth of school systems. A study of mental processes and their development must form a part of such a preparation, as well as an introduction to general philosophical movements. The courses are so arranged under this group that the student may select subjects ordinarily associated in high school work, and, while pursuing them as specialties, take such pedagogical, psychological, and philosophical work as would make most probable their successful presentation in the school room. The required studies of the group are all junior or senior subjects, and the group may be elected at the end of the sophomore year.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Education 1; 5 hours.
Education 2; 5 hours.
Education 3a, 6; 3 hours.
Education 7 or 8; 2 hours.
Psychology 1; 3 hours.
Philosophy 1; 3 hours.
Mathematics 3 or 4; 3 or 2 hours.

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Military 1, 2; 5 hours.
Physical Training—
Men, 1, 3; 2½ hours.
Women, 7, 9; 3 hours.
Rhetoric 2; 6 hours.

ELECTIVES

To be selected from the offerings of the University subject to the requirements for graduation.

REQUIREMENTS FOR GRADUATION

In order to graduate in the pedagogical group the candidate must have completed all the prescribed courses above specified and have taken at least four additional hours from other courses offered by the department of education, or of psychology. Besides this, two major subjects must be chosen from the offerings of some group in the College of Science, in each of which at least twenty hours' work must be taken. In addition, a sufficient number of electives must be taken to make the required total of 130 hours. These may be selected from any university offerings, subject to the approval of the Professor of Education.

SUGGESTED COURSES

The following courses are intended especially to prepare for the work of the science teacher in the secondary schools, and with a proper course of graduate study following will fit the student also for instruction work in college science. Those taking these or equivalent courses will be given the preference, other things being equal, in making recommendations of science teachers.

TEACHERS' GENERAL SCIENCE COURSE

FIRST YEAR

1. Free-Hand Drawing (Art and Design 1b); Elementary and Experimental Chemistry (Chem. 1); Zoölogy 10 or Botany 11; Advanced Algebra and Trigonometry (Math. 1 and 3); Military 2; Physical Training 1, 3 or 7, 9.

2. Qualitative Analysis (Chem. 3b); Elements of Organic

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Chemistry (Chem. 4); General Invertebrate Zoölogy (Zoöl. 1); General Astronomy (Astron. 4); Rhetoric and Themes (Rhet. 2); Military 1, 2; Physical Training 1, 3 or 7.

SECOND YEAR

1. Vertebrate Zoölogy and Comparative Anatomy (Zoöl. 2); Vegetable Morphology (Botany 2); German 1; Rhetoric and Themes (Rhet. 2); Military 2.

2. Vegetable Histology and Physiology (Botany 1); German 3; Chiaroscuro (Art and Design 2); Logic (Phil. 1b); Psychology 1; Military 2.

THIRD YEAR

1. General Physics (Physics 1); Introduction to Physical Measurements (Physics 3); Mineralogy 1; German 4; Principles of Education (Ed. 1).

2. Physics 1 and 3; Geology 1; German 5 or 6; History of Education (Ed. 2).

FOURTH YEAR

1. Physiography 1; General Astronomy and Cosmogony (Astron. 5); Outlines of Philosophy (Phil. 2); General Method (Ed. 3) or High School Organization (Ed. 6); Special Methods in Science and Mathematics (Ed. 7); Seminar in Education (Ed. 10).

2. Physiology 4; Modern Philosophy (Phil. 4); Psychology; Comparative Study of School Systems (Ed. 5); Psychology Applied to Education (Ed. 9); Seminar in Education (Ed. 10).

TEACHERS' COURSE IN THE BIOLOGICAL SCIENCES

FIRST YEAR

1. Free-Hand Drawing (Art and Design 1b); Elementary and Experimental Chemistry (Chem. 1); Advanced Algebra and Trigonometry (Math. 2, 4); Zoölogy 10 or Botany 11; Military 2; Physical Training 1, 3 or 7, 9.

2. Qualitative Analysis (Chem. 3b); Elements of Organic Chemistry (Chem. 4); Photography (Chem. 22a); General Invertebrate Zoölogy (Zoöl. 1); Vegetable Histology and Physiology (Botany 1); Military 1, 2; Physical Training 1, 3 or 7.

SECOND YEAR

1. German 1; Vertebrate Zoölogy and Comparative Anatomy (Zoöl. 2); Morphology of Plants (Botany 2); Rhetoric and Themes (Rhet. 2); Military 2.

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2. German 3; General Entomology (Zoöl. 6); Plant Physiology (Botany 3b); Rhetoric and Themes (Rhet. 2); Military 2.

THIRD YEAR

1. German 4; General Entomology (Zoöl. 6); Taxonomy of Spermaphytes (Botany 4a); Principles of Education (Ed. 1).

2. German 5 or 6; Teachers' Zoölogy (Zoöl. 9) or Botany 9; General Geology (Geol. 3); History of Education (Ed. 2).

FOURTH YEAR

1. Advanced Zoölogy (Zoöl. 4) or Botany 9; Logic (Phil. 1); Outlines of Philosophy (Phil. 2), Psychology 1; General Method (Ed. 3) or High School Organization (Ed. 6); Special Methods in Science and Mathematics (Ed. 7); Seminar in Education (Ed. 10).

2. Elementary Physics (Physics 2); Elementary Physiology (Phys. 4); Modern Philosophy (Phil. 4); Comparative Study of School System (Ed. 5); Psychology applied to Education (Ed. 9); Seminar in Education (Ed. 10).

A limited number of students will be permitted to act as volunteer assistants in elementary courses in botany and zoölogy as a part of the work in zoölogy 4 and botany 9. Such assistants will receive instruction in the collection and preparation of laboratory material, in the use and care of laboratory equipment, and in the principles and methods of laboratory supervision.

Suggested courses in physics and chemistry and in geology and physiography have been arranged and can be obtained of the Professor of Education.

DESCRIPTION OF DEPARTMENTS

EDUCATION

See same, in the College of Literature and Arts, page 75.

PHILOSOPHY

The work in this department includes history of philosophy, metaphysics, ethics, and logic. The object of the courses is primarily threefold:

1. To meet the wants of those who desire to specialize.
2. To give those who desire a general knowledge of

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these subjects some familiarity with the sphere of philosophical speculation and with the philosophical method as applied to the principles and presuppositions of the various sciences.

3. To show the relation of philosophy to practical life and the value of these studies as means of general culture.

PSYCHOLOGY

The object of this department is twofold. The aim is, first, to acquaint the student experimentally with psychic phenomena and to make him familiar with recent literature and standard authorities; and, second, to make contributions to the science itself.

For the suitable preparation of the student for higher work, he is from the first required to deal with the subject as an experimenter, and thus given a practical knowledge of the phenomena which he is to handle. The laboratory is well equipped with materials and apparatus for the continuation of this work through a large number of classical experiments upon sensation, which the student is required to conduct himself and of which a careful record is kept. The higher mental functions are then studied in a similar way, and the experimenter held responsible for the purity of the experimental conditions and the method of procedure. The history of psychology is also taken up. A full line of periodical literature is made accessible by the University, and this serves as the basis of reports in the seminary. In order to give a comprehensive survey of psychic activities, the genesis of mind with its accompanying development of neural structure is traced from the lower forms of life to its culmination in adult man.

For the accomplishment of the second aim of the department, that of original research, the laboratory is well equipped with suitable apparatus and every incentive is given toward a high grade of work. Investigations not immediately connected with the laboratory are also encouraged.

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THE PRELIMINARY MEDICAL GROUP

AIMS

The courses in the preliminary medical group are intended (1) to provide for the student a thorough training in the sciences which form the foundation of medicine, together with such other liberal studies as will give him a well-rounded education, as represented by the bachelor's degree, and (2) to prepare the student for specialization in the sciences allied to medicine. The studies of this group are offered and recommended in two general courses, the "full course" and the "three years' course" preliminary to medicine. The latter contemplates three years work at the University, followed by three years' work at the Medical College. Those completing these six years of work satisfactorily will receive (on graduating from the Medical College) both the medical degree and the liberal degree. They will receive advanced credit for the following courses at the Medical College: chemistry (general, organic, qualitative and quantitative analysis, and toxicology), biology (zoölogy), normal histology, physiology, embryology, and bacteriology. For a full list of the studies in this course, see page 143, of the catalog.

The full course preliminary to medicine has one marked advantage over the three-year course. The great amount of work required in the sciences on which medicine is based renders it impossible to allow much latitude in elective studies for those who spend only three years at the University. For those who take the full course an excellent group of studies may be selected. In addition to all the advantages of the three-year course, the student has a chance to do specialized work in chemistry, histology, physiology, psychology, bacteriology, or any other of the sciences for which he has a special predilection; and at the same time he may so perfect himself in German and French that he may have command of medical literature in these lan-

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guages—which means the medical literature of the world. He will also be in a position to perfect himself so as to study with profit abroad and to attend and participate in the meetings of international medical bodies. In short, he will have a scientific and liberal training which will enable him to compete advantageously for a place in the front rank of his profession, and to maintain the same with honor.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Art and Design 1a; 1 hour.
Botany 5; 5 hours.
Chemistry 1, 2, 3a, 5a, 9, 9c; 23 hours.
German B or 1, 3, 4, 5 or 6; 20 hours.
Latin.*
Mathematics 4; 2 hours.
Military Science 1, 2; 5 hours.
Physical Training—
  Men, 1, 3; 2½ hours.
  Women, 7, 9; 3 hours.
Physics 2; 5 hours.
Physiology—
  For three-years' course, 1; 10 hours.
  For full course, 1, 2†; 20 hours.
Psychology 2; 5 hours.
Zoölogy 10, 2, 3†; 15 hours.
Rhetoric 2; 6 hours.

ELECTIVES

In addition to the subjects of the prescribed list, the student may take, subject to the approval of the Dean of his College, any subjects offered by the College of Science or the College of Literature and Arts, sufficient to make up the total number of hours required for graduation in his course.

REQUIREMENTS FOR GRADUATION

In the preliminary medical group students taking the three years' course may graduate as follows: After com-

*Those who offer Latin for entrance must take German in this course; those who offer German for entrance should take its equivalent in Latin before going on with German in the University.

†In exceptional cases zoölogy 3 and physiology 2 may be omitted from the list of prescribed studies on petition to the faculty of the College of Science.

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pleting the studies on the prescribed list (page 141), together with a sufficient number of electives to amount to 100 semester hours for his entire course, the student is admitted to the Medical College of the University, in Chicago, and given credit for those studies which are taught both at the Medical College (see page 140) and at the University. This advanced standing enables him to complete his medical studies proper in three years instead of four, making six years for the combined course. At the completion of his medical studies he receives the degree of Bachelor of Science from the University and that of Doctor of Medicine from the Medical College. Those taking the full course preliminary to medicine may graduate from either a specialized or a general course.

A specialized course requires that the student shall have done a total of at least thirty hours' (see page 180) work in the subject in which he specializes, and that ten hours of the thirty shall have been devoted to original work, which shall be the subject of an acceptable thesis. No student may be enrolled in a specialized course without the permission of the head of the department in which he wishes to do his principal work. The thirty hours' work in the principal subject chosen may not all be taken in any two consecutive semesters.

A general course requires the completion of all the prescribed studies of the group, together with sufficient electives to make the total number of "semester hours" (see page 180) one hundred and thirty, and to prevent the number of semester hours for any one semester from falling below fifteen. The elective studies may be chosen from any of the courses offered at the University.

COURSES OF INSTRUCTION

It is urgently recommended that students take the studies of the following prospectuses in the order named. The courses have been arranged with great care to avoid con-

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flicts, and any deviation from the order given is likely to lead to irreconcilable conflicts of hours, which may involve the inability of the student to complete the list of prescribed studies in the required time.

FULL COURSE PRELIMINARY TO MEDICINE

First Year

1. Zoölogy 10; Art and Design 16; Elementary Chemistry (Chem. 1); Trigonometry (Mathematics 4); Rhetoric and Themes (Rhet. 2); Military 2; Physical Training for Men 1, 3; for Women 7, 9.

2. Descriptive Inorganic Chemistry (Chem. 2); Qualitative Analysis (Chem. 3a); Physics 2; Rhetoric and Themes (Rhet. 2); Military 1, 2.

Second Year

1. German B or 1 or 4 or Latin*; Zoölogy 2; Quantitative Analysis (Chem. 5a); Military 2.

2. German B or 3 or 5 or 6 or Latin*; Zoölogy 3†; Organic Chemistry (Chem. 9, 9c); Military 2.

Third Year

1. German 4; Psychology 2; Physiology 1; Electives. [French recommended.]

2. German 5 or 6; Physiology 1; Bacteriology (Bot. 5); Electives. [French recommended.]

Fourth Year

1. Physiology 2*; Electives.
2. Physiology 2*; Electives.

THREE YEARS' COURSE PRELIMINARY TO MEDICINE

The three years' course is the same as the first three years of the "Full Course Preliminary to Medicine." (See above.)

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* Those who offer Latin for entrance must take German in this course; those who offer German for entrance should take its equivalent of Latin before going on with German in the University.

† In exceptional cases zoölogy 3 may be omitted as a required study by petition to the faculty of the College of Science.

*In exceptional cases physiology 2 may be omitted as a required study on petition to the faculty of the College of Science.

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COLLEGE OF AGRICULTURE

FACULTY

ANDREW S. DRAPER, LL.D., PRESIDENT.
EUGENE DAVENPORT, M.AGR., DEAN, Animal Husbandry.
THOMAS J. BURRILL, PH.D., LL.D., Botany and Horticulture.
STEPHEN A. FORBES, PH.D., Zoölogy.
CHARLES W. ROLFE, M.S., Geology.
DONALD MCINTOSH, V.S., Veterinary Science.
ARTHUR W. PALMER, Sc.D., Chemistry.
SAMUEL W. PARR, M.S., Applied Chemistry. (On leave.)
DANIEL K. DODGE, PH.D., English.
DAVID KINLEY, PH.D., Economics. (On leave.)
ALBERT P. CARMAN, Sc.D., Physics.
EVARTS B. GREENE, PH.D., History.
GEORGE T. KEMP, M.D., PH.D., Physiology.
JACOB K. SHELL, M.D., Physical Training.
LEWIS A. RHOADES, PH.D., German.
THOMAS A. CLARK, B.L., Rhetoric.
GEORGE D. FAIRFIELD, A.M., Romanic Languages.
ISABEL BEVIER, PH.M., Household Science.
CYRIL G. HOPKINS, PH.D., Agronomy.
EDMOND G. FECHÉT, MAJOR U.S.A. (retired), Military.
VIOLET D. JAYNE, A.M., English.
HARRY S. GRINDLEY, Sc.D., Chemistry.
HERMAN S PIATT, PH.D., French.
FRANK SMITH, A.M., Zoölogy.
OSCAR QUICK, A.M., Physics.
JOSEPH C. BLAIR, Horticulture.
GEORGE H. MEYER, A.M., German.

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MATTHEW B. HAMMOND, PH.D., Economics.
JENNETTE E. CARPENTER, O.M., Physical Training.
GEORGE A HUFF, JR., Assistant Director of Gymnasium.
WILBER J. FRASER, B.S., Dairying.
NEIL C. BROOKS, PH.D., German.
MARTHA J. KYLE, A.M., Rhetoric.
WILLIAM A. ADAMS, A.B., Rhetoric and Public Speaking.
LUCY H. CARSON, A.M., English.
WILLIAM J. KENNEDY, B.AGR., SECRETARY, Animal Husbandry.
JOHN W. LLOYD, B.S.A., Horticulture.
GEORGE M. HOLFERTY, M.S., Botany.
HUGH E. WARD, M.S., Soil Physics and Bacteriology.
JOHN H. MCCLELLAN, A.M., Zoölogy.
OSCAR ERF, B.AGR., B.SC., Dairying.
ARCHIBALD D. SHAMEL, B.S., Farm Crops.
JUSTUS W. FOLSOM, S.D., Entomology.
DAISY L. BLAISDELL, A.M., German.
FLORENCE N. JONES, A.M., French.
CORNELIA E. SIMONS, Household Science.
FRED R. CRANE, B.S., Farm Mechanics.
ALBERT R. CURTISS, Woodworking.
HENRY JONES, Blacksmith.
HUGH J. GRAHAM, A.B., Rhetoric.
OSCAR L. HOUSEL, Military.

AIMS AND SCOPE

The College of Agriculture offers to students an education designed to fit them for the business of farming and at the same time to furnish a means of culture. This education is, therefore, partly technical and partly cultural. Its end is the training of students to be not only successful farmers, but good citizens and successful men as well. In other words, it seeks to provide an education suitable to the needs of rural people.

The technical portion of the courses offered in the College

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of Agriculture constitutes about one-half of the entire work of the student. In studying these technical subjects the aim is not so much to teach rules of practice as to make plain the principles of agricultural science. Of the remaining portion of the course, twenty-five semester hours are prescribed in the sciences. Since the technical subjects are also of a scientific character, the course as a whole is essentially scientific, rather than literary; yet the College is mindful of the educational importance of history, literature, language, and the political sciences, and reasonable attention is, therefore, given to these subjects and their pursuit is encouraged by a liberal amount of open electives.

The College also offers, through the department of Household Science, a variety of courses, especially treating of the affairs of the home.

METHODS OF INSTRUCTION

Of the twelve instructors in technical subjects, eleven devote their entire time to agriculture. Instruction is by laboratory work supplemented by text-books, lectures, and reference readings which are almost constantly assigned from standard volumes and periodicals. The student is brought into close practical contact with his subject. He takes levels, lays tile, tests the draft of tools, traces root systems of corn and other crops, tests germination of seeds, determines the fertility in soils and the effects of different crops and of different rotations upon soil fertility. He does budding, grafting, trimming, and spraying, and works out problems in landscape gardening. He tests milk, operates separators, makes and judges butter and cheese. He studies cuts of meat and samples of wool, judges a great variety of animals, and has practice in diagnosing and treating their diseases.

EQUIPMENT

The College keeps on deposit from the largest manufacturers thousands of dollars worth of plows, cultivators, planters, cutters, shellers, grinders, mowers, binders, engines, etc.

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It has extensive collections of agricultural plants and seeds and their products. Laboratories are well equipped with apparatus and appliances for the study of manures, fertilizers, fertility of soils, soil physics, soil bacteriology, germination of seeds, corn judging, etc. The grounds of the University and the fields and orchards of the Experiment Station are always available for illustration in class work. An illustrative series of colored casts of fruit and enlarged models of fruits and flowers, collections of seeds and woods, cabinets of beneficial and noxious insects with specimens of their work, photographs, maps, charts, drawings, lantern slides,—all afford valuable material for study and illustration.

Specimens of Morgan horses; Shorthorn, Jersey, Ayrshire, and Holstein-Friesian cattle; Shropshire, Merino, and Dorset sheep, and Berkshire swine afford material for judging, which, however, is vastly increased by loans from prominent herds. In the dairy department is a complete outfit for a milk-testing laboratory and for cream separation and butter and cheese making. The department of veterinary science owns a collection illustrating materia medica, a collection of pathological specimens illustrating special abnormal bony development, and a *papier-maché* model of a horse, capable of dissection, and showing every important detail of structure. In addition are levels, lanterns, microscopes, and cameras, an extensive list of agricultural journals, a complete file of experiment station bulletins from all the states, and an excellent assortment of standard reference books, including nearly all the pedigree registers published.

DESCRIPTION OF DEPARTMENTS

DEPARTMENT OF AGRONOMY

The Department of Agronomy, with four teachers, gives instruction in those subjects that relate especially to the field and its affairs, as drainage, farm machinery, field crops, the physics and bacteriology of the soil, manures, rotation and

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fertility, the history of agriculture, farm management and comparative agriculture. The object is to acquaint the student with the facts and principles connected with the improvement of soils, the preservation of fertility, the nature of the various crops, and the conditions governing their successful and economic production and with the development of agriculture. This object is attained by the application of the laboratory methods of study to these subjects, supplemented by lectures, class room work, and a free use of standard literature.

ANIMAL HUSBANDRY

In this department two instructors give courses covering the separate study of sheep, swine, beef, and dairy cattle and their products, heavy and light horses with their care and training, the management of farm herds, and the principles and practices of feeding and of breeding. The object is to familiarize the student with animals, first as to their fitness for specific purposes; second, as to their care and management; third, as to their improvement by breeding; and fourth, as to the commercial production of animal products. This familiarity is gained by an exhaustive study of the uses of domestic animals; the history and character of their breeds, together with extensive practice in stock judging, supplemented by a careful study of the methods of successful stockmen and of the known principles of feeding and of organic evolution.

DAIRY HUSBANDRY

Two instructors give extended courses in the study of milk and its economic production; the characteristics of the dairy cow and the management of dairy farms; the separation of cream, and the making of butter and cheese; factory management; dairy bacteriology; city milk supply and the standardizing and pasteurizing of milk and cream.

HORTICULTURE

Three instructors conduct courses in orchard management, small fruit culture and vegetable gardening; in nut

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culture, floriculture, landscape gardening, and forestry; in fruit propagation, greenhouse management, and the evolution of cultivated plants; and in commercial horticulture and nursery management. The purpose is to acquaint the student with the principles and practices of fruit raising and vegetable gardening, both for home and market, and with successful methods of combating insect and fungous enemies. The sense of the beautiful is cultivated and given expression in floriculture and landscape gardening to the end that more of nature's beauty shall pervade the home and its surroundings. The student studies plant life, how to propagate, cultivate, and improve the forms that have been found useful or ornamental in the way of vegetables, fruits, flowers, and trees. As in other departments, he follows the methods of the laboratory in that he learns to do by doing, supplementing everything by numerous references to standard literature.

HOUSEHOLD SCIENCE

The department of household science stands in educational training for a recognition of the home, because of the belief that that which bears so large a part in the development of the individual and in national life should be considered and its interests conserved.

It aims to provide a place and an opportunity for a scientific study of some of the problems of housekeeping and home-making, together with the management of the house and the distribution of the income according to recognized business principles.

The courses of instruction given in the department are planned to meet the needs of two classes of students, viz.; (a) those students who specialize in other lines of work, but who desire a knowledge of the general principles and facts of household science. (b) Those students who wish to make a specialty of household science by a comprehensive study of the affairs of the home, together with the arts and sciences whose applications are directly connected with the management and care of the home.

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The needs of class (a) are provided for in household science courses 1, 2, 3, and 5. (See description of courses.)

Provision is made for class (b) by the Household Science Group, as described page 126.

The department occupies the entire second floor of the north wing of the agricultural building and is supplied with laboratories, apparatus, and illustrative material, such as charts, specimens of various kinds of building material, and exhibits illustrating the chemical composition and products obtained in the manufacture of certain foods.

The students have access also to the museum of the architectural department, as well as the benefit of close association with the art department.

VETERINARY SCIENCE

Courses are offered in veterinary anatomy and physiology, materia medica, theory and practice of veterinary medicine and surgery, and veterinary sanitary science. The object is to acquaint the student with the structure and activities of the animal in health, the characteristic symptoms of disease and the materials and methods of successful treatment. He therefore makes careful study of the structure of domestic animals, of the nature of their derangements and the characteristic action of remedial agents, and the weekly clinic gives opportunity for practical experience in the diagnosis and treatment of the more ordinary diseases.

CLASSIFICATION OF SUBJECTS

PRESCRIBED*

Agronomy 2, 6, 9, 12; 15 hours.
Animal Husbandry 7, 8; 7½ hours.
Chemistry 1, 3b, 4, 13; 15 hours.
Dairy Husbandry 10; 2½ hours.
Economics 2; 2 hours.
Horticulture 1, 10; 8 hours.
Military 1, 2; 5 hours.

*See note referring to students specializing in household-science given under "Requirements for Graduation."

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Physical Training 1, 3, or 7, 9; 3 hours.
Physics 1, 3; 4½ hours.
Rhetoric 2; 6 hours.

ELECTIVE

List A

Botany 1 to 8; 42 hours.
Zoölogy 1 to 7; 35 hours.

List B

English 1, 16; 3 to 8 hours.
Rhetoric 3; 5 to 10 hours.

List C

Agronomy 1; 3 to 5; 7, 8, 10, 11, 13 to 18; 1 to 60½ hours.
Animal Husbandry 1 to 6, 9; 2 to 28 hours.
Dairy Husbandry 1 to 9, 11, 12; 2½ to 40 hours.
Horticulture 2 to 9, 11 to 19; 2 to 72 hours.
Veterinary Science 1 to 4; 2 to 25 hours.

REQUIREMENTS FOR GRADUATION

Students will be graduated from the College of Agriculture with the degree of bachelor of science upon completing the following work:

1. The studies of the prescribed list.

2. Sufficient electives to make a final total of 130 semester hours, of which ten shall be chosen from elective List A, not less than three from elective List B, not less than twenty-five from elective List C, and the remainder from any subjects offered in the University (p. 180), which the student is prepared to take.

3. An acceptable thesis upon an approved course of investigation, for which from five to ten semester hours will be allowed, according to the nature of the subject. Credit for this will be included in the amount to be earned by elective work.

Students specializing in household science may substitute courses in that department in place of courses prescribed in agronomy, animal husbandry, dairy husbandry, and horticulture, and may elect sufficient additional subjects

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for graduation from any subjects taught in the University, subject to the approval of the Dean of this College.

COURSE OF INSTRUCTION

Required for the degree of B. S. in Agriculture

The following outline shows the most favorable time and order in which the prescribed studies of the course can be taken, and, though it is not insisted that the scheme be followed, it is strongly recommended.

FIRST YEAR

1. Chemistry 1; Horticulture 1; Military 1, 2; Physical Training 1, 3 or 7, 9; Rhetoric 2; Elective in Agriculture.
2. Agronomy 2, 6; Chemistry 3b, 4; Military 2; Physical Training 1 or 7; Rhetoric 2; Elective in Agriculture.

SECOND YEAR

1. Chemistry 13; Physics 1 and 3 (first semester); electives.
2. Animal Husbandry 7; Dairy Husbandry 10; Rhetoric 3, or English 1, or English 16; Botany, if elected; Electives.

THIRD YEAR

1. Agronomy 9; Botany or Zoölogy; Electives.
2. Agronomy 12; Zoölogy if elected; Horticulture 10; Electives.

FOURTH YEAR

1. Animal Husbandry 8; Electives.
2. Economics 2; Electives.

Should the student elect five or more hours in dairy husbandry, the prescribed minor in that subject will not be exacted. Note that a total of ten hours in either botany or zoölogy is required.

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GRADUATE SCHOOL

ORGANIZATION

The Council of Administration of the University is in charge of the Graduate School, and the executive officer, to whom communications should be addressed, is the Dean of the Graduate School.

ADMISSION AND REGISTRATION

Graduates of the University of Illinois, and of other colleges and universities of approved standing, may be admitted to membership in the Graduate School upon presentation of their credentials. Other persons suitably qualified may gain admission by special vote of the Council of Administration upon such conditions as may be imposed in each case. Candidates for admission may secure application blanks from the Dean or the Registrar of the University, and these, properly filled out, should be filed, together with such documentary matter as may be presented, showing qualifications for membership in the school, with the former officer. This should be done not later than the time set for registration in September. Admission may be granted at other times, but the time limit required for degrees counts from the date of the certificate of membership.

With the exceptions named below, all members of the Graduate School are required to be in regular attendance at the University, and to do all the work for which they are registered in the departments to which such work belongs. In case of absence on leave, or when absence is necessary to carry on investigations included in approved courses of study, the requirement of continuous residence may be modified by the Council of Administration.

Graduates of this University may be admitted to nonresident membership in the Graduate School, as candidates for second or masters' degrees; and all members of the

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School who have completed the residence period required for advanced degrees may register as non-residents while completing the work required for such degrees.

Members of the Graduate School register with the Dean during the registration period of each semester. This in the case of non-residents may be done by letter, stating the work to be undertaken during the ensuing half-year.

STUDIES AND EXAMINATIONS

As far as can be indicated by a statement of time, full work for a graduate student consists in the use of forty-five hours a week in the lecture rooms, laboratories, etc., and in private study. Assignments of work are made upon this basis; but great variations naturally result from the subject-matter in hand, and from the abilities of individuals. Each student must select one principal line of study, called his major subject, and upon this major subject at least one-half of his work must be done; and any greater proportion of his time, up to the whole of it, may be thus devoted if proper approval is had. When work upon the selected major subject is not arranged to require all of the student's attention, he must choose one or two minor subjects, as may be necessary to complete a full course of study. Usually, at least one minor subject should be taken. Not more than two may be taken at the same time.

The major study must be approved as graduate work for this University. The minor subjects may, under approval, be chosen from the offerings to graduates, or, except in the College of Engineering, from undergraduate courses exclusive of those usually open to freshmen. But all candidates for advanced degrees must direct their selection toward some well-defined end, determined for the most part by the character and purpose of the major study.

In architectural and engineering subjects, at least the major line of study, and not less than two-thirds of the entire work, must be taken from lists marked "primary,"* and

*See the courses for graduates in architecture and other engineering courses, in the "General Description of Courses," p. 180.

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any remaining amount to complete a full course may be taken from those designated "secondary," under the same general head with the primary list.

All courses of study leading to degrees in the Graduate School are subject to approval, first, by the head of the department of the University in which the major subject for each student belongs; second, by the Dean of the College including such department; and, third, by the Dean of the General Faculty. The signatures of the heads of departments in which chosen minor subjects belong must also be obtained before the list reaches the Dean of the General Faculty. The lists of studies, as finally approved, are deposited with the Registrar of the University. No changes may subsequently be made except under the same line of approvals, but extension of time may be arranged with the professors concerned and with the Dean of the General Faculty.

Examinations are required in all subjects, and reports upon these are made to the Registrar of the University. Graduate students in undergraduate classes are examined with these classes.

The head of the department in which the student does his major work is charged with the direction and supervision of such major work, and, in a general way, with the supervision of the student's entire course of study. He fixes the time and method of all examinations not otherwise provided for, sees that they are properly conducted, and reports results to the Registrar. It is his duty also to keep the Dean of the General Faculty informed concerning all matters affecting the interests of the student, and of the School in connection therewith.

DEGREES AND FELLOWSHIPS

A full statement regarding the degrees conferred by the University may be found on later pages of this catalog, and in the same connection an account of fellowships. (See pp. 279 and 283.)

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STATE LIBRARY SCHOOL

FACULTY

ANDREW S. DRAPER, LL.D., PRESIDENT.
KATHARINE L. SHARP, PH.M., B.L.S., DIRECTOR, Library Economy.
ISADORE G. MUDGE, PH.B., B.L.S., Reference.
MARGARET MANN, Library Economy.
GRACE O. EDWARDS, B.S., B.L.S., Cataloging.
CECILIA B. MCCONNEL, Library Economy.
EMMA R. JUTTON, B.L.S., Library Economy.

AIMS AND SCOPE

The *Library School,* which had been conducted at Armour Institute of Technology, Chicago, since September, 1893, was transferred to the University of Illinois in September, 1897.

The scope of the work of the School has been broadened since the time of the transfer. There is now offered a four years' course of study, leading to the degree of bachelor of library science. Two years of the course are devoted to general university studies, and this is the smallest preparation which will be accepted for entrance upon the technical work. Students are encouraged to complete a four years' college course before applying for admission. This high standard is necessary because conditions in library work are rapidly changing. It is not enough to have a knowledge of books, nor is it enough to have a knowledge of methods. One or two years of training will not take the place of years of experience, but they will make the student more adaptable and general library service more intelligent.

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Instruction is given in each department of library administration. Stress is laid upon simplicity and economy, although elaborate methods are taught to enable students to work in large libraries where bibliographic exactness is required. The higher side of library work is emphasized throughout the course, and students are taught their responsibility to the schools, to the clubs, and to the people as organized bodies and as individuals.

It is the purpose of the University to graduate librarians who are not only trained, but educated; librarians who are not only equipped in technical details, but filled with an appreciation of their high calling to furnish "the best reading to the greatest number at the least cost."

METHODS OF INSTRUCTION

There are so few text-books on library economy that instruction is given almost altogether by lecture and laboratory methods. References to books and periodicals are given for collateral reading, and individual research is encouraged from the start. Lectures are illustrated by the collections of forms and fittings, and each student is expected to do a certain amount of practical work in the University library each day. Before completing the course, each student must have had actual experience in every department of the library. Class room work is tested by problems, and examinations take the form of problems wherever practicable.

PUBLIC DOCUMENTS

This is the only Library School which gives an extended course on the use and cataloging of public documents. This knowledge is necessary in small as well as large libraries, in public as well as college libraries.

LOCAL LIBRARY COÖPERATION

The Library of the University of Illinois and the Champaign Public Library have systematic plans for coöperation through the Library School, in the interests of the clubs

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and the schools. Each woman's club in Champaign and Urbana sends its program for the year to the Library School, where a reference list is made on each subject, specifying in which library the material is to be found. A copy of each list is posted in each library. The students also make lists for the various grades of the public schools. The branch of the Champaign Public Library is entirely in charge of Library School seniors. Seniors also spend a definite time in the children's room of the Champaign Public Library, where they develop their own ideas as to advertising methods, picture bulletins, decoration, reading lists, etc. Each student gives a talk to the children upon some timely topic, and invitations to these talks are posted in the schools. All special holidays are observed by bulletins and reading lists, and birthdays of distinguished people are called to the children's attention.

EQUIPMENT

The most valuable equipment is the working library of the University.

The Library School has the complete collection of manuscript notes and problems which have been prepared since the School opened in 1893. As text-books are so few, this collection is invaluable. A collection of library reports and catalogs and of mounted samples, showing methods of administration in all departments, is carefully classified and is continually increasing. A collection of card catalogs of various forms has been made, including the book forms from Leyden, Holland; Cassel, Germany; and Florence, Italy; and the modern forms approved by the American Library Association. Other forms are represented by photographs.

The School has a collection of printed blanks and forms illustrating methods of administration in different types of libraries, many labor-saving devices, and samples of fittings for all departments. The School received much material from the World's Columbian Exposition in 1893, and is con-

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stantly receiving additions from librarians and manufacturers throughout the country.

A collection of cataloging rules and of classification systems is making for comparative study. A number of devices and patents, such as temporary binders, pamphlet cases, newspaper files, etc., have been contributed by inventors and manufacturers.

REQUIREMENTS FOR GRADUATION

Credit for 65 hours, including the prescribed military and physical training, in addition to two years' prescribed technical library work, is required for graduation. The technical work is of junior and senior grade, and must be taken at the University, but the work of the first two years covers general university studies and may be taken at any college from which credits are accepted.

COURSE OF INSTRUCTION

Required for the degree of B.L.S.

The work of the first two years may consist of any of the courses offered in the University, the requirements for which students can meet.

THIRD YEAR

1. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); Elementary Apprentice Work (Lib. 4).

2. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); Elementary Apprentice Work (Lib. 4).

FOURTH YEAR

1. Selection of Books (Lib. 3); Advanced Library Economy (Lib. 5); Public Documents (Lib. 6); Bibliography (Lib. 7); History of Libraries (Lib. 8); Advanced Apprentice Work (Lib. 11); Thesis (Lib. 12).

2. Selection of Books (Lib. 3); Advanced Library Economy (Lib. 5); Bibliography (Lib. 7); Advanced Reference (Lib. 9); Book-making (Lib. 10); Advanced Apprentice Work (Lib. 11); Thesis (Lib. 12).

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SCHOOL OF MUSIC

FACULTY

ANDREW S. DRAPER, LL.D., PRESIDENT.
WALTER HOWE JONES, DIRECTOR, Piano.
ALISON MARION FERNIE, R.A.M. (London), P.A.M. (Philadelphia), Voice.
HENRY CARL SCHELD, Violin.
JESSIE YOUNGE FOX, Piano.
EMMA QUINBY FULLER, Voice.

FACULTY

The School of Music offers courses leading to the degree of bachelor of music.

The courses are widely varied. Although regular courses are laid out, students may spend an indefinite amount of time in the study of an instrument or of the voice.

The course in the history of music, as well as the work in the University Orchestra and the University Choral Society, may be taken by regular students in other departments.

A course of artists' concerts is given each season under the management of the University Choral Society. In these concerts, to which an admission fee is charged, only artists of the best reputation appear.

The instructors in the School of Music give recitals and lectures on musical subjects during the year.

REQUIREMENTS FOR GRADUATION

Credit for 130 semester hours, including military and physical training credit, together with an acceptable thesis, is required for graduation with the degree of bachelor of

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music. The thesis required for graduation must be on a topic related to music.

Students who are not working for a degree in music may receive a certificate of work done by complying with the following conditions:

Students of the piano, organ, or violin must complete the entire course specified for these instruments; must also complete the work offered in harmony, covering thirteen hours, and must take one year's work (ten hours) in either German or French.

Students of the voice must complete the entire course offered in vocal work, the thirteen hours' work in harmony and two years' work on the piano, besides taking one year (ten hours) of German or French, and one year (four hours) of Italian.

Special and preparatory music students are required, in addition to their practical work in music, to pursue other lines of study sufficient to fill in their spare time.

Students enrolled in the department of music only pay no semester fees, but must pay the music fees. (See p. 297.)

CLASSIFICATION OF SUBJECTS.

PRESCRIBED

Music 1; 2 hours (see page 181).
Music 2a; 13 hours.
Music 2b; 3 hours.
Music 2c; 3 hours.
Music 2d; 3 hours.
Music 3b, 4b, 5b or 6b; 56 hours.
French or German; 10 hours.
Italian 1; 4 hours.
Mathematics 4; 2 hours.
Military 1, 2; 5 hours.
Physical Training—
  Men, 1, 3; 2½ hours.
  Women, 7, 9; 3 hours.
Physics 2; 5 hours.
Rhetoric 1; 6 hours.

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The remaining hours of credit may be obtained in electives, offered in the College of Literature and Arts, choice of subjects being left to individual students.

MUSICAL ORGANIZATIONS

The University Glee Club is an organization for men. Membership is decided by competition and is limited to sixteen in number. The club meets twice a week for rehearsal.

The Ladies' Glee Club is an organization for the young ladies of the University, and is in charge of the head of the vocal department.

The Mandolin and Guitar Club is open to young men who play these instruments. Membership is decided by competition, and the club is associated with the Glee Club in its concerts.

The Military Band is conducted by the director of the School of Music. It furnishes music for important University occasions and appears at regimental drill of the military department, besides giving several concerts during the year. Membership is limited to thirty in number and is decided by examination.

The University Orchestra meets for a two hours' rehearsal once a week, and is open to all students who play any orchestral instrument ordinarily well.

The University Choral Society is conducted by the head of the vocal department of the School of Music, and meets once a week for rehearsal of choral works. Students, also singers not connected with the University, are admitted to membership on the payment of a small fee.

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COLLEGE OF LAW

FACULTY

ANDREW S. DRAPER, LL.D., PRESIDENT.

JAMES B. SCOTT, A.M., J.U.D., DEAN, Constitutional and International Law, Equity, and Real Property.

CHARLES C. PICKETT, A.B., LL.B., Contracts, Sales, and Carriers.

WILLIAM L. DREW, B.S., LL.B., Torts, Agency, Common Law Pleading.

THOMAS W. HUGHES, LL.M., Evidence, Bills and Notes, Corporations.

CHARLES W. TOOKE, A.M., LL.B., Domestic Relations, Damages, and Wills.

LECTURERS

HON. OLIVER A. HARKER, Judge of the Appellate Court of the State of Illinois, Lecturer on Criminal Law.

HON. BENJAMIN R. BURROUGHS, Judge of the Appellate Court of the State of Illinois, Lecturer on the Law of Real Property.

HON. FRANCIS M. WRIGHT, Judge of the Appellate Court of the State of Illinois, Lecturer on the Law of Easements.

HON. CALVIN C. STALEY, County Judge of Champaign County, Lecturer on Probate Law and Administration of Estates.

HON. ORRIN N. CARTER, County Judge of Cook County, Lecturer on Election Laws and Revenue Law of the State of Illinois.

Special courses of lectures will also be given by other gentlemen.

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REQUIREMENTS FOR ADMISSION

1. All applicants for admission to the College of Law must be at least 18 years of age and of unquestioned character.

2. Graduates of colleges and of scientific schools of approved standing are admitted upon diploma or certificate without examination.

3. Graduates from any approved high school in the state are admitted in the same way.

In the absence of proper certificates the usual examination as for admission to the freshman class of the University (p. 48) will be required.

ADVANCED STANDING

The following persons will be admitted to advanced standing:

1. Persons who produce from another law school, in good standing, certificates of having satisfactorily pursued courses in law, included in the following schedule, and of having received credit therein, *provided* that the time spent on such courses is equivalent to the time spent on the same courses in this school. Otherwise, an examination on such courses, given by the instructors in this College, must be satisfactorily passed.

2. Persons who have studied law privately or in an attorney's office, and who pass examinations prescribed by the faculty of the College.

3. Members of the bar of this state, who will be admitted to the third year class without examination as candidates for the degree of LL.B.

SPECIAL STUDENTS

Students who do not desire to be candidates for a degree may take one or more courses as special students upon approval of the faculty of the College under regulations to be prescribed for the University (p. 57). Such students will

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receive credit for work satisfactorily done, and may become candidates for graduation at any time by meeting the requirements of the College.

METHODS OF INSTRUCTION

The methods of instruction used in this College are based upon the study of cases. Text-books are used to some extent, and lectures are occasionally resorted to, but the study of the case is regarded as the chief means to the attainment of legal knowledge and proficiency.

LIBRARY AND MOOT COURT

The library consists of the leading text-books on all subjects: Supreme and Appellate Court Reports of Illinois; United States Supreme Court Reports; New York, Ohio, Massachusetts, Iowa, Wisconsin, Michigan, and Indiana Reports; American Decisions, American Reports, and American State Reports; the current volumes of the West Company Reporter System, and the leading legal periodicals. Additions of reports and text-books will be made during the coming year.

The Moot Court is held once a week for the purpose of familiarizing the student with legal procedure. It is presided over by Judge Harker, the other officers being elected by the law students from their own body. All second and third year students are required to be present and to perform such duties as may be assigned them.

LEGAL STUDY AND UNIVERSITY WORK

The Council of Administration will, upon application, in proper cases, apply credits earned in the College of Law upon other University courses.

Students matriculating in the College of Law may take any of the following courses in the College of Literature and Arts, subject to the approval of the Dean of the College of Law and of the Dean of the College of Literature and Arts: public law and administration; economics and social science,

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and history. By special arrangement other work in the College of Literature and Arts may also be taken.

COURSE OF INSTRUCTION

Required for the Degree of LL.B.

FIRST YEAR

1. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Common Law Pleading (Law 4); Criminal Law (Law 5); Personal Property (Law 6).

2. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Common Law Pleading (Law 4); Domestic Relations (Law 7).

SECOND YEAR

1. Evidence (Law 8); Sales (Law 9); Real Property (Law 10); Agency (Law 11); Equity (Law 12); Damages (Law 13).

2. Evidence (Law 8); Real Property (Law 10); Equity (Law 12); Bailments and Carriers (Law 14); Bills and Notes (Law 15).

THIRD YEAR

1. Trusts (Law 16); Corporations (Law 17); Wills and Administration (Law 18); Partnership (Law 19); Constitutional Law (Law 22); International Law (Law 23); Practical Conveyancing (Law 25); Moot Court (Law 26).

2. Corporations (Law 17); Equity Pleading (Law 20); Suretyship and Mortgage (Law 21); Constitutional Law (Law 22); International Law (Law 23); Municipal Corporations (Law 24); Practical Conveyancing (Law 25); Moot Court (Law 26).

REQUIREMENTS FOR GRADUATION

The requirements for graduation with the degree of bachelor of laws are seventy-eight semester hours of work. A "semester hour," as here used, means one hour per week of class room work for one-half of a year. The degree will be conferred upon the completion of the course set forth above.

ADMISSION TO THE BAR

Under the rules of the Supreme Court of Illinois, candidates for admission to the bar of this state must have had a high school education or its equivalent, must have completed a three years' course of study in a law school or law office, and must then pass an examination to be given by the State Board of Bar Examiners.

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THE COLLEGE OF MEDICINE

(For Faculty of the College of Medicine, see page 17.)

HISTORY

The College of Medicine, the College of Physicians and Surgeons, is located on the corner of Harrison and Honore Streets, Chicago, in the heart of the medical quarter of the city. It was founded in the year 1882 by a number of representative physicians and surgeons. In 1892 the College had a thorough reorganization, and erected a commodious laboratory building, the first building exclusively for laboratory purposes erected by any medical school in the West. Since that time it has grown with steadiness and rapidity. The attendance in 1895-96 was 235; in 1896-97, 308; in 1897-98, 408; in 1898-99, 514, 35 of the students being women; in 1899-1900 was 579, 43 being women, and in 1900-1901, over 670. It became the Medical Department of the University in April, 1897.

Chicago is already the center of medical study in the United States. Since the winter of 1897-98 it has contained a larger number of medical students than any other city in the western hemisphere. These students are distributed among fourteen medical colleges, of which the College of Physicians and Surgeons is the second, as to the size of its classes, and is not outranked by any in respect to its facilities, or the scope and thoroughness of its curriculum, or in regard to the place it occupies in the esteem of the medical profession.

SESSIONS

Since the first of October, 1900, the work of the College has been continuous. The collegiate year is divided into

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three terms of four months each, beginning as nearly as possible the first of October, the first of February, and the first of June. Each term is of sixteen weeks' duration and offers the same amount of work. Attendance upon two terms, that is eight months, of instruction will constitute a year's work.

REQUIREMENTS FOR ADMISSION, SESSION OF 1901-1902

First, a certificate of good moral character from two reputable physicians.

Second, a diploma of an accredited high school or academy of the University of Illinois, or of a similarly accredited school of another university, whose entrance requirements are equivalent to the entrance requirements of the University of Illinois.

Or, third, entrance examination covering the following subjects:

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of Rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each to test his ability to use the English language.

3. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next year are as follows:

George Eliot's Silas Marner; Pope's Iliad, Books I., VI., XXII., and XXIV.; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Cooper's Last of the Mohicans; Tennyson's Princess; Shakspere's The Merchant of Venice; Scott's Ivanhoe; Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

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(b) In addition to the above, the candidate will be required to present a brief outline of American Literature. Hawthorne and Lemmon's Outline of American Literature, or an equivalent.

4. LATIN.—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories; also four books of Cæsar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

5. GEOMETRY.—Plane Geometry, as given in Wells's or Wentworth's Geometry, or an equivalent.

6. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The History of Greece and Rome.

7. PHYSICS.—The elements of physical science as presented in such text-books as Appleton's School Physics, or Avery's Elements of Natural Philosophy, or Carhart and Chute's Elements of Physics, or Gage's Elements of Physics.

The entrance examinations are conducted in writing by a committee outside of the Faculty of the College of Medicine appointed by the President of the University, and are held at the medical college at 10 a. m. on the week day next preceding the opening of each term.

ADVANCED STANDING*

Students who have completed a "medical preparatory course," equivalent to that given by the University of Illinois, and graduates of reputable schools of pharmacy, veterinary science, or dental surgery, *whose course extends over two years,* may enter the sophomore class and complete their studies upon three years of attendance, provided they fulfill all other requirements for admission and graduation. *Students thus advanced may not complain of any conflict of hours, nor absent themselves from any part of the lower conflicting course;* but they may make up deficiencies in the work of the winter session during the spring course in such branches as are represented in that course.

*For Combined Undergraduate and Medical course of six years, leading to the degree of B.S. and M.D., see p 140.

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COURSE OF STUDY*

The curriculum required for graduation extends over four years. During the first two years the work is confined to the sciences fundamental to practical medicine. During the freshman year this consists of work in histology, biology, embryology, chemistry, human anatomy, physiology, and materia medica. During the sophomore year the study of physiology, chemistry, and human anatomy is continued, and in addition the student takes up pathology, bacteriology, and therapeutics. With the junior year the study of the practical branches of medicine is begun. The entire subjects of medicine, surgery, and obstetrics are covered in recitation courses. The student also begins clinical and bedside work and receives instruction in medical and surgical specialties. More advanced work along the same lines is continued in the senior year. Medicine, surgery, and obstetrics are gone over again, this time in lecture courses and with greater minuteness of detail and profuseness of illustration. The various special departments of medicine and surgery are presented with like thoroughness, and a large part of the student's time is given to clinical study.

METHOD OF INSTRUCTION

During the first two years the time of the students is about equally divided between laboratory and didactic work. The plan of instruction in the College contemplates the freest use of laboratory teaching. Wherever possible practical laboratory work is made to supplement didactic teaching. Students are taught not only by prepared specimens, but they are required to prepare their own specimens from the original material, and are thus made familiar with technical methods, so that they become able independently to carry a technical investigation through all of its stages. During the junior and senior years the time is about equally divided

*For Combined Undergraduate and Medical course of six years, leading to the degree of B.S. and M.D., see p. 140.

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between clinical and didactic work, with, perhaps, a preponderance of clinical instruction in the senior year. This clinical instruction is carried on, as far as possible, with the student at the patient's side. Attendance upon clinics is required in the same way as upon lectures, and the students are graded upon, and given credit for, their work in the clinical courses just as they are for the work in the didactic and laboratory courses. The students of the junior and senior years are divided into classes for dispensary and bedside work, and these classes have instruction in rotation in the various departments of practical medicine and surgery.

EQUIPMENT

The college building is a six-story structure on the corner of two wide streets, with an open space around it on all sides. It is provided with all modern conveniences. It contains three well-lighted and well-ventilated amphitheaters, the smallest of which seats two hundred students. In these amphitheaters the usual lectures are given. Adjacent to the college building on the west is the laboratory building. The laboratories contained therein are among the largest and most complete possessed by any medical college in the United States. They occupy four floors, three of them 25x100 feet each, and one 25x56 feet. Each will accommodate one hundred and twenty students at a time. They are provided with desks and lockers for students' use, and are well adapted to the work for which they are severally intended. Adjoining the laboratories are preparation rooms for the use of demonstrators and professors. There is a bone room, to which students have free access for the study of osteology. In the department of pathology the collections furnish ample material for the macroscopical as well as the microscopical study of diseased tissues. The store rooms are connected with all the laboratories by means of an elevator. The College has for the use of students a large number of modern microscopes of late continental and American patterns, a sufficient

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number of which are equipped with oil emersion lenses. There are also an ample number of microtomes for students' use, besides microtomes of special construction for particular kinds of work, electric projection apparatus of latest design, and all other apparatus in any way necessary for students' work or for the illustration of lectures. The College has recently purchased the West Division High School property which is adjacent to the present buildings. This property occupies half of the block, is bounded on three sides by streets and on the side next to the present college buildings by a narrow alley. The building upon this property is a very fine modern brick and stone school building, excellently adapted to the needs of a medical school. This addition more than trebles the room at the disposal of the college and gives it a group of buildings for a medical school that is unsurpassed.

FREE DISPENSARY

The dispensary occupies part of the first and second floors of the main building. Connected with the reception room are fourteen clinic rooms for the accommodation of the various specialties in medicine and surgery. During the past five years there have been treated in these rooms an average of twenty thousand patients each year.

HOSPITAL FACILITIES

Members of the faculty and other friends of the College purchased, a few years ago, the adjoining building of the Post-Graduate Medical School and converted it into a hospital of 125 beds. It is a large, handsome structure, 50x100 feet, five stories high, of modern construction, and completely furnished. It is connected with the college amphitheater by a corridor and its clinical resources are thus made easily available for the instruction of students. An entire floor of this hospital is reserved as a ward for patients who are maintained by the College for the instruction exclusively of its students. It is designed to increase these hospital re-

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sources as necessity indicates. Directly opposite the College is Cook County Hospital, the only free hospital in Chicago. It contains constantly almost a thousand patients, and supplies a quantity and variety of clinical material which no private institution can command. In the amphitheater of the hospital much of the clinical instruction of the College is given and its wards furnish most of the bedside instruction. In addition to the foregoing resources members of the faculty are connected with various other hospitals of the city and freely draw upon them for the benefit of students.

REQUIREMENTS FOR GRADUATION

First, a certificate of good moral character by two reputable physicians.

Second, satisfactory deportment during attendance at college.

Third, satisfactory evidence that the candidate is twenty-one years of age.

Fourth, proof that the candidate has attended at least four full courses of instruction in four separate years, the last of which shall have been in this institution.

Fifth, certificate that the candidate has pursued the study of practical anatomy during two years and to the extent of having dissected at least the lateral half of the human body.

Sixth, certificate that the candidate has attended two full courses of dispensary and hospital clinics.

Seventh, payment of all the college fees in full.

LIBRARY

The College has for several years had a reference library of several hundred volumes. This library owes its foundation to the gift to the College of the collection of books of the late Prof. A. Reeves Jackson. It has been added to largely from time to time by contributions from members of the faculty and other friends of the College. Its usefulness has recently been greatly augmented by gifts from

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the Dean of the Faculty, in consideration of which, and of provision made for its permanent maintenance and growth, it has been named by the faculty the Quine Library. It already contains practically every book of reference required by medical students, and the important medical periodicals. In point of size and completeness it is the second medical library in Chicago, the Newberry Library being the first, and in attendance of readers it is the first. It is in charge of a trained librarian, and is open daily from nine to five for the use of students.

SCHOOL OF DENTISTRY

The College of Medicine will open a School of Dentistry October 1, 1901. Particulars with regard to this school will be given in the Announcement of the College of Medicine for the year 1901.

More detailed information concerning the College may be obtained by application to the Registrar of the University, Urbana, Ill., or to the Secretary of the College of Medicine, Dr. William Allen Pusey, 103 State Street, Chicago.

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THE SCHOOL OF PHARMACY

(For Faculty of School of Pharmacy, see p. 23.)

HISTORY.

The Chicago College of Pharmacy is a corporation which was founded by prominent pharmacists of Chicago and vicinity in 1859 for the purpose of advancing the practice of pharmacy. One of the first steps taken was the establishment of a school of pharmacy. At that time there was no school of the kind west of the Alleghany Mountains. Members and friends contributed money, books, apparatus, and supplies; teachers were secured and a course of lectures was instituted in November, 1859.

The first class, of but two students, was graduated in 1861. The war caused a suspension of the teaching, and the school was not reopened until 1870. The great fire, in 1871, destroyed the equipment, but pharmacists throughout Europe and America extended help to the institution, furnishing an excellent library and outfit of apparatus, which became the nucleus of the present complete equipment. In 1872 the instruction was resumed for the second time and has since continued without interruption.

"The Pharmacist," a monthly journal published by the College, from 1866 until 1886, did much to advance the interests of pharmacy in the West.

In 1880 the members and graduates of the College took an active part in the formation of the Illinois Pharmaceutical Association, which, in the following year, secured the passage of the pharmacy law.

The twenty-fifth anniversary of the founding of the College was signalized by the completion and occupation of a

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building in which ample space for many years' growth was provided. The better accommodations gave an impulse to better work. Up to this time instruction had been given mainly by means of lectures, laboratory work being entirely optional. Laboratory courses in pharmacy, chemistry, and vegetable histology were now made obligatory. A laboratory devoted entirely to prescription compounding was established in 1892. The excellence of the equipment in this department won for the College a medal and diploma at the World's Columbian Exposition.

The College was formally united with the University May 1, 1896, and is now conducted as the technical "School of Pharmacy of the University of Illinois." In the management of the School the Trustees and officers of the University have the assistance of an advisory board of pharmacists elected by the registered pharmacists of the state through the Illinois Pharmaceutical Association.

The School is situated near the business center of Chicago. In addition to the larger amphitheater, known as "Attfield Hall," which has a seating capacity of three hundred and fifty, the building occupied has a smaller hall especially fitted for lectures and demonstrations in chemistry, and capable of seating one hundred and fifty persons. The chemical and pharmaceutical laboratories, as well as the microscopical laboratory and the dispensing laboratory, are commodious and well appointed.

The courses of instruction, covering two terms of seven months each, extending from September to April, inclusive, afford opportunities for a thorough technical training, such as is necessary for the successful practice of pharmacy. The subjects taught are pharmacy, chemistry, botany, and materia medica.

The system of teaching includes lectures, demonstrations, recitations, written and oral examinations, as well as individual instruction in actual work in operative and dispensing pharmacy, analytical chemistry, use of the compound microscope, etc. Much time is devoted to laboratory practice.

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REQUIREMENTS FOR ADMISSION

Applicants for admission must be at least sixteen years of age and must furnish evidence of their ability to prosecute the work of the course successfully.

The preliminary education should be equivalent to that required for entrance to a good high school.

Students who have pursued courses of study in other colleges of pharmacy will be given credit for such portions of their work as are equivalent to the work required by this School.

REQUIREMENTS FOR GRADUATION

The candidate for the degree of graduate in pharmacy must be twenty-one years of age, must have had four years' practical experience in pharmacy, including the period of attendance at School, and must have attended two full courses of instruction, the first of which may have been in some other reputable college or school of pharmacy. He must have attended regularly the laboratory and lecture courses of this School, must pass the examinations, and must not have been absent more than five times during the term from either laboratory exercises or lectures in any department.

The candidate for the degree of graduate in pharmacy, who presents himself for final examination before he has attained the age or practical experience required, will, if successful, receive a certificate of having finished the course and will be awarded his diploma when the requirements of age and experience are complied with.

Persons competent to fulfill the general requirements of admission to the University may be granted credit upon the University courses for equivalent work satisfactorily completed at the School of Pharmacy.

Further information is given in the special announcement of this school. Address W. B. Day, Actuary, School of Pharmacy, 465-7 State Street, Chicago, Ill.

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SUMMER TERM

SUMMER TERM, 1901

The Summer Term of 1901 will open Monday, June 17th, continue nine weeks, and close Friday, August 16th. No examinations or other conditions will be placed upon admission. All who can do the work are welcome to get what they can from it. Those who can meet the requirements may matriculate in the University if they desire, and in that event may have credits to apply upon regular University courses when certified, upon examination or otherwise, by the professors in charge. Examination in and credit for some of the courses may be had at the end of six weeks by any who find it impossible to remain during the whole session. Instruction begins on June 18th and closes on August 14th. The exact amount of credit given for each course is stated in connection with the outline of courses given below.

FEES

A tuition fee of twelve dollars ($12) is required of all students in regular attendance at the session. This entitles one to admission to all special lectures and to as many courses as may be approved by the Director. An extra laboratory fee in some courses is charged for materials used. Any single course may be taken for a fee of six dollars ($6) and the laboratory fee, if there be any in connection with the course taken. For all students who take examinations, credit will be entered upon the University records. For further information on any matter connected with the Summer Term address Edwin G. Dexter, Director, Urbana, Illinois.

COURSES OFFERED

ART AND DESIGN.—Two courses will be offered in Art and Design in charge of Mr. Lake.

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BOTANY.—Four courses, one of them an elementary course which will be accepted for admission, will be offered in botany in charge of Professor Burrill and Mr. Holferty.

CHEMISTRY.—Four courses, including an elementary course, will be offered in chemistry in charge of Professor Grindley and Mr. Sammis.

EDUCATION.—Seven courses will be offered in education in charge of Professor Dexter, Assistant Professor Brooks, President Draper, Dean Russell of Teachers' College, Columbia University, and Professor Ryley of London, England.

ENGLISH LITERATURE.—Five courses will be offered in English literature in charge of Professor Dodge, Mr. Horner, and Professor Rolfe of Cambridge.

GERMAN.—Three courses will be offered in German in charge of Dr. Brooks.

HISTORY.—Three courses, one of them an elementary course in American history, will be offered in charge of Professor Greene.

LATIN.—Three courses will be offered in Latin in charge of Professor Barton.

MATHEMATICS AND ASTRONOMY.—Ten courses in mathematics and astronomy, including elementary algebra, and plane and solid geometry, will be offered in charge of Mr. Short, Mr. Ponzer and Mr. Brenke.

PHYSICS.—Three courses, one of them an elementary course, will be offered in physics in charge of Professor Quick and an assistant.

RHETORIC.—Three courses, one of which is an elementary course that will be accepted for entrance to the University only, will be offered in rhetoric in charge of Professor Clark and Mr. Horner.

ZOÖLOGY.—Four courses, including an elementary course, will be offered in zoölogy in charge of Professor Smith, Mr. McClellan and Dr. Folsom.

Special courses of lectures will be offered presented by Dr. William J. Rolfe of Cambridge, Mass., Dean James E. Russell of Columbia University, Professor H. B. Ryley of London, England, Chancellor E. B. Andrews of the University of Nebraska, President Z. X. Snyder of the Colorado State Normal School, Superintendent James H. Van Sickel of Baltimore, Md., and others.

The libraries, laboratories, Astronomical Observatory, and Gymnasium of the University will be open for students at the summer term.

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GENERAL DESCRIPTION OF COURSES

Following the description of each course of instruction will be found the necessary requirements, if any, for admission to that particular course. Careful attention must be given to these requirements and to the sequence of studies thus indicated. For instance, under Architecture 4, for students of the College of Engineering, page 188, there are required "Physics 1 and 3," and "Architecture 2 and 3." Turning now to these subjects, it is found that physics 1 and 3 are the major course of one year, architecture 2 is wood construction, and architecture 3 is metal construction. All these subjects must be satisfactorily passed before admission may be had to the class in architecture 4.

In case a course not required for graduation is selected by less than five students, the right to withdraw the same for the semester is reserved.

Graduate courses of instruction are described under the various subjects, as a rule after the undergraduate courses. They are numbered upward from 100. Other courses may often be arranged by the professors in charge to meet the special requirements of students. The subjects in which graduate courses are announced for 1901-1902 are as follows:

Agriculture, architecture, botany, chemistry, civil engineering, Danish language, economics, education, electrical engineering, French, geology, Greek, history, mechanical engineering, municipal and sanitary engineering, philosophy, physics, psychology, theoretical and applied mechanics, zoölogy.

Credit is reckoned in semester "hours," or simply

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"hours." An "hour" is either one class period a week for one semester, each class period presupposing two hours' preparation by the student, or the equivalent in laboratory, shop, or drawing room.

The semester, the days, and the class period or periods during which each course is given, and the number of "hours" per semester for which the course counts, are shown after each course, as follows: The semester is indicated by the Roman numerals I., II.; the days, by the initial letters of the days of the week; the class period or periods (of which there are nine each day, numbered consecutively from one to nine), by Arabic figures; and the "hours" or amount of credit, by Arabic figures in parentheses. For example, after the description of Anthropology 1 (p. 187) occur the abbrevations I.; M., W., F.; 1; (3). These are to be read first semester, Monday, Wednesday, and Friday, first period, three "hours."

AGRONOMY

1. DRAINAGE AND IRRIGATION.—Location of drains and irrigation conduits, leveling, digging, laying tile and pipes, filling, and subsequent care; cost of construction and efficiency; sewers for the disposal of waste water from farm buildings and the sewage from kitchen and toilet; farm water pipes, pipe and thread cutting. Class work, laboratory and field practice. *I., first half; daily; 6, 7;* (2½). Mr. CRANE.

2. FIELD MACHINERY.—The tools and machinery of the field,—plows, harrows, and hoes; seeders, drills, corn and potato planters; cultivators, weeders and spraying machines; mowers, rakes, self-binders, corn harvesters and huskers, potato diggers, wagons, etc. Class work and laboratory practice, including setting up and testing machines, noting construction and elements necessary for successful work. *I., first half; daily; 1, 2; or II., second half; daily; 6, 7;* (2½). Mr. CRANE.

3. FARM POWER MACHINERY.—Horse-powers, gas engines, traction engines, windmills, pumps, corn shellers, feed cutters, grinders, and threshing machines,—their construction, efficiency, durability, and care. Class room and laboratory work. *I., second half; daily; 1, 2;* (2½). Mr. CRANE.

4. FARM BUILDINGS, FENCES, AND ROADS.—The arrangement,

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design, construction, and cost of farm buildings, especially of barns, granaries, and silos; the different kinds of fences, their cost, construction, efficiency, and durability; cost and construction of roads and walks. Class work and practice in designing and drafting buildings, operating fence-building machines, setting and testing fence posts, making walks, etc. *II., first half; daily; 3, 4;* (2½). Mr. CRANE.

5. FARM CROPS.—QUALITY AND IMPROVEMENT.—Judging of corn and oats, wheat grading, methods of improving quality, shrinkage of grain, care of stored crops to prevent injury and loss. Class and laboratory work. *I., first half; daily; 6, 7; (2½).* Mr. SHAMEL.

6. FARM CROPS.—GERMINATION AND GROWTH.—Vitality and germination of seeds, preservation of seeds, methods of seeding; conditions of plant growth; peculiarities of the different agricultural plants in respect to structure, habits, and requirements for successful growth; enemies to plant growth,—weeds and weed seeds, their identification and methods of destruction, fungous diseases, such as smut of oats and wheat, and blight, scab, and rot of potatoes, methods of prevention; insects injurious to farm crops and how to combat them. Class room, laboratory, and field work. *II., first half; daily; 6, 7; (2½).* Mr. SHAMEL.

7. SPECIAL CROPS.—A special study of farm crops taken up under an agricultural outline,—grain crops, root crops, forage crops, sugar and fiber crops,—their history and distribution over the earth, methods of culture, cost of production, consumption of products and residues, or by-products. Class work supplemented by practical field work and a study of the results of previous experiments, such as detasseling corn, injury to roots of corn by cultivation, selection and breeding of corn and other crops, with special reference to practices which apply directly to Illinois conditions. Students will have an excellent opportunity to study the work of the Agricultural Experiment Station. *II.; daily; 1, 2; (5).* Mr. SHAMEL.

Required: Agronomy 2, 5, 6.

8. FIELD EXPERIMENTS.—Special work by the students conducted in the field. This work consists in testing varieties of corn, oats, wheat, potatoes, and other farm crops; methods of planting corn, seeding grains, grasses, and other forage crops; culture of corn, potatoes, and sugar beets; practice in treating oats and wheat for smut and potatoes for scab and studying the effects upon the crops; combating chinch bugs and other injurious insects. Other practical experiments may be arranged with the instructor. Special opportunities will be given to advanced students of high class stand-

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ing to take up experiments, under assignment and direction of the instructor in farm crops, on certain large farms in the state, arrangements having been made with the farm owners or managers for such experiments. *II., second half, and summer vacation; daily; arrange time; (2½-5).* Mr. SHAMEL.

Required: Agronomy 7, 12.

9. SOIL PHYSICS AND MANAGEMENT.—This course is designed to prepare the student better to understand the effects of the different methods of treatment of soils and the influence of these methods upon moisture, texture, æration, fertility, and production. It comprises a study of the origin of soils, of the various methods of soil formation, of their mechanical composition and classification; also soil moisture and means for conserving it, soil texture as affecting capillarity, osmosis, and diffusion, as affected by plowing. harrowing, cultivating, rolling, and cropping; of the wasting of soils by washing; fall or spring plowing and drainage as affecting moisture, temperatures, and root development. The work of the class room is supplemented by laboratory work, comprising the determination of such questions as specific gravity, relative gravity, water holding capacity and capillary power of various soils; also the study of the physical effects of different systems of rotation and of continuous cropping with various crops, and the mechanical analysis of soils. *I.; daily; 1, 2; (5).* Mr. WARD.

Required: Physics 1, 3, (first semester's work), and Agronomy, 2.

10. SPECIAL PROBLEMS IN SOIL PHYSICS.—This work is intended for students wishing to specialize further in the study of the physical properties of soils, and will include the determination by electrical methods of the temperature, moisture, and soluble salt content of various soils under actual field conditions; effect of different depths of plowing, cultivation, and rolling on soil conditions; effects of different methods of preparing seed beds; the physical questions involved in the formation and redemption of the so-called "alkali," "barren" or "dead dog" soils, and of other peculiar soils of Illinois. *II., or summer vacation; daily; arrange time; (5).* Mr. WARD.

Required: Agronomy 9.

11. SOIL BACTERIOLOGY.—A study of the morphology and activities of the bacteria which are connected with the elaboration of plant food in the soil, or which induce changes of vital importance to agriculture, with regard to the effects of cropping and tillage upon these organisms, and with special reference to the study of those forms which are concerned with the formation of nitrates and nitrites

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in the soil and with the accumulation of nitrogen by leguminous crops. Class room and laboratory work. *II.; daily; 6, 7; (5).* Mr. WARD.

Required: Botany 5; Chemistry 3b, 4.

12. FERTILIZERS, ROTATIONS, AND FERTILITY.—The influence of fertility, natural or supplied, upon the yield of various crops; the effect of different crops upon the soil and upon succeeding crops; different rotations and the ultimate effect of different systems of farming upon the fertility and productive capacity of soils. The above will be supplemented by a laboratory study of manures and fertilizers, their composition and their agricultural and commercial value; of soils cropped continuously with different crops and with a series of crops; of the fertility of soils of different types, or classes from different sections of Illinois. *II.; daily; 1, 2; (5).* Professor HOPKINS.

Required: Chemistry 13; Agronomy 6, 9.

13. INVESTIGATION OF THE FERTILITY OF SPECIAL SOILS.—This course is primarily designed to enable the student to study the fertility of those special soils in which he may be particularly interested and to become familiar with the correct principles and methods of such investigations. It will include the determination of the nature and quantity of the elements of fertility in the soils investigated, the effect upon various crops of different fertilizers added to the soils, as determined by pot cultures, and, where possible, by plot experiments. This work will be supplemented by a systematic study of the work of experiment stations and experimenters along these lines of investigations. *I., II.; arrange time; (2 to 5).* Professor HOPKINS.

Required: Agronomy 12.

14. HISTORY OF AGRICULTURE.—Its development and practice with particular regard to the agriculture of those nations which have contributed most to agricultural progress, including a sketch of the earliest agricultural practices as illustrated by the agriculture of the Egyptians, the Jews, the Chinese, and other ancient peoples; followed by a study of the development of Roman agriculture and its influences upon the practices in other nations; a consideration of the beginnings and systems of British agriculture with regard to their influence upon social conditions; and, finally, the development of modern agriculture with special reference to that of England, Germany, France, and the United States. *I., second half; daily; 3; (2½).* Mr. WARD.

15. COMPARATIVE AGRICULTURE.—Influence of locality, climate, soil, race, customs, laws, religion, etc., upon the agriculture of a

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country, and incidentally upon its people. One crop only, and its effect, as rice; Indian corn in American agriculture and affairs. Varying conditions under which the same crop may be produced, as wheat. Statistical agriculture. Influence of machinery and of land titles, whether resting in the government, in landlord, or in occupant. Relation of agriculture to other industries and to the body politic. Lectures. *II.; F.; 4; (1).* Professor DAVENPORT.

Required: Two years of University work.

16. GERMAN AGRICULTURAL READINGS.—A study of the latest agricultural experiments and investigations published in the German language, special attention being given to soils and crops. The current numbers of German journals of agricultural science will be required and used as a text. This course is designed to give the student a broader knowledge of the recent advances in scientific agriculture, and, incidentally, it will aid him in making a practical application of a foreign language. It is recommended that it be taken after Agronomy 12. *II.; M., W.; 4; (2).* Professor HOPKINS.

Required: Two years' work in German.

17. SPECIAL WORK IN FARM MECHANICS.—Students may arrange for special work in any of the lines covering drainage or farm machinery, either in the second semester or the summer. *(2½-5).* Mr. CRANE.

18. INVESTIGATION AND THESIS.—This course varies in the subject matter of study, according to the department in which theses are written. The work is under the direction of the head of the department in which the work is done. *I., II.; arrange time; (5 to 10).*

ANIMAL HUSBANDRY

1. SHEEP, MUTTON, AND WOOL.—The comparative quality and value of mutton cuts; exhaustive study of different grades of wool and their uses in manufactures, together with a critical examination of animals both for mutton, wool, and breeding purposes. The history, development, and characteristics of the several breeds; the location of the principal flocks; the most successful methods of flockmasters, and the economic production of mutton and wool for the markets of the world. Lectures, assigned readings and extensive practice in judging. *I.; M., W., F.; 3, 4; (3).* Mr. KENNEDY.

2. SWINE AND THEIR PRODUCTS.—A study of the types and breeds of swine and the most successful methods of growing and marketing their products. Lectures, assigned readings, and practice in judging. *I.; T., Th.; 3, 4; (2).* Mr. KENNEDY.

3. BEEF CATTLE AND BEEF.—The various cuts of beef, their comparative quality and cost; the beef type and a critical study

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of animals from the standpoint of the butcher, the feeder and the breeder. The history, development, and characteristics of the breeds suitable for beef production; comparison of the most successful methods of beef production in this and other countries; the by-products of the feed lot and the slaughter house and their bearing upon the cost of beef; selection of breeding animals and the care and management of a breeding herd of beef cattle. Lectures, assigned readings, and exhaustive practice in judging. *I.; daily; 6, 7; (5).* Mr. KENNEDY.

4. DRAFT HORSES.—The horse market; an outline of the types and classes in demand; special study of the draft horse and of the breeds suitable for his production; the best methods of producing and marketing draft horses; selection of breeding stock and the care and management of a breeding stud. Lectures, assigned readings, and exhaustive practice in judging and examining for soundness. *II., first half; daily; 6, 7; (2½).* Professor DAVENPORT and Mr. KENNEDY.

5. DRIVING HORSES AND SADDLERS.—Coach, carriage, and road horses; bus horses, cab horses, and saddlers; a systematic study of their classes and types and of the breeds most suitable for their production; the breeding, care, and development of the driving horse and his proper education and training. Lectures, assigned readings, and practice both in judging and in training for driving purposes. *II., second half; daily; 6, 7; (2½).* Professor DAVENPORT and Mr. KENNEDY.

6. LIVE STOCK MANAGEMENT.—The housing, feed, and management of flocks and herds and the care and surroundings of work horses and drivers. *II.; M., W., F.; 8; (3).* Mr. KENNEDY.

7. PRINCIPLES OF STOCK FEEDING.—The functional activities of the animal body and the end products of their metabolism. Foods are considered, first, chemically as affording materials for the construction of the body tissues or of animal products, as meat, milk, wool, etc.; second, dynamically as supplying the potential energy for the body processes and for external labor; third, as to the fertilizing value of their residues. There is involved a study from the breeder's standpoint of the perfect development of the animal after birth, and also of the phenomena of animal nutrition from the economic standpoint, in which animal activity is considered as an agent for transformation of energy, and the manufacture of animal products as a source of profit. *II., first half; daily; 3; (2½).* Professor DAVENPORT.

Required: Chemistry 1, 3b, 4, 13; Physics 1, 3, first semester; one year of Botany or Zoölogy.

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8. BREEDING.—The principles and phenomena of evolution as applicable to the improvement of animals and plants; variation, its nature, extent, importance, and causes; correlated variations, the effects of use and disuse, and the influence of environment; the nature and operations of heredity, particularly as to inheritance of acquired characters; instinct and intelligence; panmixia, and disappearance of characters; latent characters and reversion; inbreeding and outbreeding, hybridism, crossing, and grading—all as bearing upon the efficiency of selection and care. The aim is to bring every known principle of reproduction to the assistance of the breeders' art. *I.; daily; 4; (5).* Professor DAVENPORT.

Required: Two years of University work, including one year of Botany or Zoölogy.

9. INVESTIGATION AND THESIS.—Upon lines to be arranged with instructor for one or both semesters, according to nature of the subject. *(5-10).* Professor DAVENPORT and Mr. KENNEDY.

ANTHROPOLOGY

1. GENERAL ANTHROPOLOGY.—This course begins with a study of the physical and psychical element of ethnography. Theories as to the origin of man are discussed, and the various races of mankind are distinguished and described. Special attention is given to the historical and comparative study of customs, ceremonies, rights, beliefs, and folklore of primitive peoples, with reference to the common characteristics and fundamental instincts of mankind, and to the origin and growth of existing customs and social institutions. *I.; M., W., F.; 1; (3).* Professor DANIELS.

Required: A major or minor course in Economics, Geology, Psychology, or Zoölogy.

ARCHITECTURE

2. WOOD CONSTRUCTION.—Formulæ and data for computing dimensions and strength of columns, beams, girders, etc., of wood or metal, are given and applied in the solution of examples. Wood and its uses in construction and decoration, seasoning, shrinkage, defects, and modes of protection from decay. Construction and design of wooden floors, walls, ceilings, and roofs, and joinery, doors, windows, bays, inside finish, cornices, wainscoting, stairs, etc. *Kidder's Building Construction and Superintendence; Part II.; Jones's Logarithmic Tables. I.; lecture, M., Th.; 4; drawing, Tu., Th.; 7 and 8. (3)* Assistant Professor MCLANE.

Required: General Engineering Drawing 1, 2.

3. MASONRY AND METAL CONSTRUCTION.—Foundations of stone,

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brick, concrete, and piles; materials employed in stone masonry, their uses, defects, qualities, and modes of preparation. Kinds of masonry and external finish. Tools for stone cutting and their use. Preparation of working drawings, with application to the arch, vault, and dome. Brick masonry, its materials, and bonds. Manufacture and refining of cast iron, wrought iron, and steel, with processes of pattern-making, molding, casting, refining, rolling, etc., and standard dimensions or sections. Special properties and value of metal in a structure, designing a line of columns in mercantile building, and of beams, girders, and footings, together with the study of joints and connections. *Kidder's Building Construction and Superintendence, Part I. II.; lecture, Tu., Th.; 5; drawing, Tu., Th.; 7 and 8; (3).* Assistant Professor McLane.

Required: General Engineering Drawing 1, 2.

4. Sanitary Construction. Recitations and lectures, designs for special problems. Study of plumbing, trap ventilation, removal of wastes, construction of water closets, drains, and systems of water supply; sewage disposal. Water supply and fixtures in dwellings. *Gerhard's Sanitary Engineering; Lectures on Sewage Disposal. I.; M., W., F.; 7; (3).* Assistant Professor McLane.

Required: Physics 1, 3; Arch., 2, 3.

5. Graphic Statics and Roofs.—Elements of graphic statics and applications in designing trussed roofs. Forces, equilibrium, reactions, moments, bending moments, and shears on beams, center of gravity, moment of inertia and kern of cross sections. Construction of wooden and of metallic roofs, mode of computing loads on roof trusses, obtaining end reactions, drawing strain diagrams, and determining sectional dimensions of members, with the designing of joint connections. *Ricker's Trussed Roofs; Ricker's Elementary Graphic Statics. II.; M., W., F.; section A, 1, 2; section B, 4, 5; 3 hours' drawing a week; (3).* Assistant Professor McLane.

Required: Math. 2, 4, 6; Theoretical and Applied Mechanics 1, 2 or 4, 5.

6. History of Architecture.—Continues through the year and is taken with architecture 7 and 11. Commencing with Egyptian and ending with modern styles, a careful study is made of the more important styles, examining historical conditions, local and inherited influences, structural materials and system, special ornaments, purposes and designs of the buildings, with the most important typical examples of each style. Especial attention given to ideas useful or suggestive in American work, and to tracing gradual evolution of architectural forms. One recitation and two illustrated lectures

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a week. References made to Fergusson, Lubke, Durm, Reber, Gailhabaud, etc. *Hamlin's History of Architecture. I., II.; M., Tu., W., Th.; 4; (4).* Professor RICKER.

Required: Architecture 4.

7. DETAILS OF STYLES.—Exercises in drawing at large scale the most important details of the Grecian, Roman, Early Christian, Byzantine, Mohammedan, Romanesque, Gothic, and Renaissance styles. Taken with Architecture 6. *Notes and Sketches. I., II.; Tu., Th.; 2, 3; (1).* Assistant Professor MCLANE.

Required: Architecture 2, 3, 8.

8. THE ORDERS OF ARCHITECTURE.—A study of the Five Orders of Architecture, and architectural Shades and Shadows. A careful study of the proportions and details of the Orders is first made with lectures, recitations, blackboard sketches from memory, and problems requiring the use of the Orders. *Ware's Five Orders; Lectures on Shades and Shadows. I.; lecture, W., F.; 4; drawing, Tu.; 1, 2, 3, 4, 5; (3).* Assistant Professor TEMPLE.

Required: Gen. Eng'g Drawing 1, 2; Architecture 20 or 21.

9. MONTHLY PROBLEMS.—Preliminary instruction in rendering.—An entire day in each month during the second and third years is devoted to a problem in design, requiring the use of the Orders. Program is made known at beginning of the exercise, and sketches must be completed and rendered during the same day. Credit is given for this study only after the completion of each year. *I., II.; last Th. in each month, all day; (½ for each semester.)* Assistant Professor TEMPLE.

Required: General Engineering Drawing 1, 2.

10. WORKING DRAWINGS.—Conventional methods for representing the different parts of buildings in general and in detail, conventional colors and sectioning; systems of lettering and figuring drawings; working drawings; tracing; drawing for reproduction. Taken with Arch. 16. *II.; Tu.; 6, 7, 8; (1).* Associate Professor WHITE. WHITE.

Required: Architecture 2, 3.

11. ARCHITECTURAL SEMINARY.—Reports and discussions of original investigations of assigned topics in History of Architecture; reviews of books, abstracts of current technical journals, and other publications. Taken with Arch. 6 and 7. *I., II.; F.; 4; (1).* Pro-

12. SUPERINTENDENCE, ESTIMATES, AND SPECIFICATIONS.—This study comprises several specialties not otherwise provided for, so far as they can be taught in a professional school. The subjects treated include the duties of a superintendent, his relations to archi-

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tect, owner, and contractor, the method of supervising work, systems of keeping building accounts, the usual methods of measurement of materials and work, arrangement of computations in proper and convenient order, and approximate prices of material and labor, which vary in different localities. The methods of estimating by squaring, cubing, units, and quantities are each employed and illustrated by problems. A study is made of the general and special clauses of specifications and of their arrangement, as well as of methods of classifying material to facilitate writing specifications. Practice is obtained by writing several sets. *Clarke's Building Superintendence; Lectures on Building Law; Hodgson's Estimating; Bower's Specifications. I.; Tu., W., Th.; 6; (3).* Associate Professor WHITE.

Required: Architecture 4.

13. HEATING AND VENTILATION.—Scientific theory and practice of warming and ventilating buildings is the object of this study. Commencing with fuels and production of heat, then passing to flow of gases through ajutages and pipes, applying these data to calculation of dimensions of air ducts and chimneys. Different systems of heating by furnaces, hot water, steam, etc., are next examined, with details of each. Sources of impurity in the air and requirements of good ventilation are then considered, with the different methods of ventilation by aspiration, by fans, etc., ending with the study of fans of different types. Numerous problems are given, and heating plants designed. *Carpenter's Heating and Ventilating Buildings; Ricker's Notes on Heating and Ventilation. I.; Tu., W., Th., F.; 4; (4).* Associate Professor WHITE.

Required: Architecture 4, 15; Physics 1, 3.

14. ARCHITECTURAL PERSPECTIVE.—Theory of perspective is taught with labor-saving methods of abbreviating work, and designing in perspective is made a special aim, being very useful to a draftsman in preparing sketches for clients. Problems in angular, parallel, vertical, and curvilinear perspective, as well as in perspective shades and shadows, are solved, requiring original work as far as possible, so as thoroughly to prepare the student for any kind of work in perspective, instead of restricting him to the study and use of a single system. *Ware's Modern Perspective. II.; M., W., F.; 3, 4; lecture, Th.; 3; (3).* Assistant Professor TEMPLE and Professor WELLS.

Required: General Engineering Drawing 1, 2a.

15. REQUIREMENTS AND PLANNING OF BUILDINGS.—Lectures are fully illustrated by plans sketched on the blackboard, which must

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be embodied in students' notes. Numerous problems in planning are given. *II.; M., W., F.; 1, 2; (3).* Associate Professor WHITE.

Required: General Engineering Drawing 1, 2; Architecture 2.

16. RESIDENCE DESIGN.—Practice in design, and study of the requirements for dwellings. The work is limited to residences, since this class of buildings is likely to afford the graduate his first opportunity for independent original work. *Osborne's Notes on House Planning.* Lectures and blackboard sketches to be copied in students' notes. Taken together with Arch. 10; *II.; lecture, W.; 6; drawing, Th.; 6, 7, 8; (2).* Associate Professor WHITE.

Required: Architecture 4, 8.

17. ARCHITECTURAL DESIGNING.—Elementary architectural forms are first traced and sketched from memory; simple problems in design are then solved by sketch plans, elevations and sections, rendered in shade or color as required. The object is to obtain as much practice in original design as possible, and to form a collection of suggestive tracings and sketches. *I.; M., W., F.; 1, 2, 3; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 8, 9, 11, 20 or 21.

18. ARCHITECTURAL COMPOSITION.—A careful study is made of the laws of architectural design and of the results of experience embodied in the text-book, with numerous references to other authors. Commences with general principles, passing to an examination of proportions employed in most important styles, arrangement of plan, external design in general and detail, ceilings, and interiors, arrangement of corridors, stairways, and entrances, of internal courts, and of halls for large assemblages. Frequent problems in design afford practical applications of the principles. *Ricker's Translation of Architektonische Composition* (Handbuch der Architektur). *II.; M., W., F.; 2 and 3; (3).* Professor RICKER.

Required: Architecture 6, 7, 11, 17, 20 or 21.

19. ARCHITECTURAL ENGINEERING.—This continues the study of graphic statics, commenced in "Graphic Statics and Roofs," with applications to metallic roofs of wide span, roof trusses of curved or unusual form, and those supported by abutments and jointed. Spherical and conical trussed domes. Effect of moving loads on girders, the graphical analysis of the arch, vault, and dome, and of the Gothic system of vault and buttress. Construction and details of steel skeleton buildings. Practical applications are made to a series of problems in design for specified cases. *Ricker's Notes on Advanced Graphics; Freitag's Architectural Engineering; Ricker's Translation of Wittmann's Arch and Vault.* References to the works

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of Planat, Landsberg, DuBois, Clarke, Ott, Levy, Muller-Breslau, etc., on Graphic Statics. *I.; Tu., W., Th.; 7; (3).* Associate Professor WHITE.

Required: Math. 2, 4, 6, 7, 9; Theoretical and Applied Mechanics 1, 2; Architecture 2, 3, 4, 5.

20. Prescribed.

Any courses offered in Art and Design amounting to three semester hours. *I., II.; daily; (3).* Professor FREDERICK.

21. Optional.

Any advanced courses offered in Art and Design. *I., II.; daily;* Professor FREDERICK.

Required: Architecture 20.

The art and design courses offered as Architecture 20 and 21 are varied to meet the special needs of students of architecture.

22. RENAISSANCE DESIGN.—A prescribed series of tracings of important details is made, and problems in design are worked out as fully as time permits. *I.; M., F.; 6, 7, 8; W.; 7, 8, 9; (3).* Assistant Professor TEMPLE.

Required: Architecture 17, 18.

23. GOTHIC DESIGN and 24. ROMANESQUE DESIGN.—Courses 23 and 24 are taken together. A prescribed series of tracings of important details is made, and problems in construction and design are worked out as fully as time permits. *Ricker's Translation of "Redtenbacher's Leitfaden." I.; lecture, M.; 2; drawing, W., F.; 1, 2, 3; (3).* Professor RICKER and Associate Professor WHITE.

Required: Architecture 6, 7, 11, 14, 18, 20 or 21.

25. DESIGN OF ORNAMENT.—The study of historical ornament with exercises in designing architectural ornament to decorate the structural forms usually found in practice. These designs will be charcoal or crayon sketches, drawings rendered in shade or color, or finished drawings. They will be made on as large a scale as possible, usually full size. *Lectures. Meyer's Hand-book of Ornament. II.; Tu.; 1, 2, 3; Th., F.; 1, 2; (3).* Assistant Professor. TEMPLE.

Required: Architecture 6, 7, 11, 17, 18, 20.

27. DOMESTIC ARCHITECTURE. (For a class of not less than six students in Household Economics).—The elements of the planning, sanitation, decoration, and furnishing of dwellings.

One lecture weekly on planning and arrangement, with exercises in making skeleton plans, by Associate Professor WHITE.

One lecture weekly on water supply and fixtures, sanitary fixtures and plumbing, heating, and ventilation, by Assistant Professor MCLANE.

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One lecture weekly on decoration and furnishing, by Professor RICKER.

A considerable amount of additional reading will be required. *II.; arrange time; (3).*

28. MURAL DECORATION.—Includes the study and analysis of some of the best examples of modern decorated interiors; the appropriate use of various materials; the rendering of scale drawings in color, with especial reference to the esthetic effect produced by various harmonies of color. *I.; Tu., Th.; 1, 2, 3; II.; M., W.; 2, 3, 4; (2).* Professor WELLS.

29. SHORT HISTORY OF ARCHITECTURE.—(Elective for students in the College of Science or Literature and Arts). A careful study of the important historical styles of architecture, their origins, systems of construction, elementary forms, decoration by sculpture and painting, chief kinds of buildings, and a series of selected examples, illustrated by lantern slides. *Two weekly lectures with reading of Hamlin's History of Architecture, I.; arrange time, (2).* Professor RICKER.

30. THESIS.—The preliminary work on the thesis is begun during the first semester, but no special time is set apart on the program nor any credit granted for it during this semester.

In the second semester credit may be given to the amount of seven hours in architecture and four hours in architectural engineering, and a regular time shall be assigned on the program for this part of the work, but the amount of time so prescribed shall in no case be considered to be the total thesis requirement.

31. ARCHITECTURAL READINGS.—Reading of French and German architectural books for obtaining an acquaintance with technical terms in those languages. Optional work in either or both languages is offered to architectural students. *Laloux' Architectural Grecque; Hauser's Styl-Lehre. I.; Each (1).* Professor RICKER.

Required: French or German 10 hours.

COURSES FOR GRADUATES

Primary

101. Construction of Extensive Wooden Buildings.

102. Recent Uses of Stone, Brick, and Terra Cotta in Architecture.

103. Metallic Skeleton Buildings.

104. Fire-resisting and Fire-proof Buildings.

105. Sanitation of Public and Semi-public Buildings.

106. Researches on the Evolution of Architectural Styles.

107. Higher Applications of Graphic Statics.

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108. Heating and Ventilation of Large Buildings.
109. Higher Studies in Architectural Design.
110. Researches and Experiments in Applied Esthetics.
111. Translation of an approved Technical Architectural Work from the French or German.
112. Indexing and Classification of Periodicals, Books, Data, and Technical Information for Architects and Engineers.

Secondary

113. Stereotomy Applied to American Problems.
114. Examinations of Heating and Ventilation of Buildings.
115. Photography for Architects.
116. Methods of Reproducing Drawings, Specifications, etc., for Architects.
117. Higher Problems and Methods in Perspective.
118. Practice in Estimates, Specifications, etc., for Large Buildings.
119. Higher Industrial Design.
120. Advanced Water-color Painting.
121. Study of Office Methods and Arrangements.
122. Any *primary* offered in the College of Engineering.
123. Electric Lighting and Wiring for Buildings.

ART AND DESIGN

1. FREE-HAND DRAWING.—The aim of this course is to develop the ability to see and express accurately and simply the appearance of form. After a series of lectures upon the principles of perspective, illustrated by drawing from geometric solids, these principles are applied by drawing (largely in outline) books, chairs, casts of ornament, details of machinery, plants and flowers from nature, mounted specimens and whatever will assist the students in their university courses or prepare them for future work in the department. In the latter part of the semester, students not able to take further work in the department are given instruction in expressing light and shade. Weekly exercises are given in lettering and the principles of design. *I.; daily; section A, 1, 2; section B, 3, 4; section C, 6, 7; (3); II.; daily; 3, 4; (3).* Mr. LAKE.

1b. A special section is arranged for students from the College of Science. *I.; Th.; 2, 3, 4; (1).* Professor FREDERICK.

2. CHIAROSCURO.—This course is devoted to the study of the principles of light and shade with practice in expressing color values, textures, etc., in charcoal, crayon, chalk, or wash drawings

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of still-life, casts and the posed figure. Color may be taken up during the second half of the semester. If the weather is suitable, out-door work is carried on the latter part of the semester. Weekly exercises are given in applied design. *II.; daliy; section A, 1, 2; section B, 3, 4; section C, 6, 7; (3).* Mr. LAKE.

Required: Art and Design 1.

3. CAST DRAWING.—A course offered students who enter the department with a knowledge of perspective and chiaroscuro (courses 1 and 2), but without sufficient skill to enter advanced courses. Outline and shaded drawing from the antique and from casts of ornament. Sketching from life. Weekly exercises in design. *I., II.; daily; 3, 4; (3).* Professor FREDERICK.

4. PAINTING FROM NATURE.—Still-life in oils, water-colors, or pastels. *I.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 1, 2.

5. ADVANCED PAINTING FROM NATURE.—Still-life and landscape in oils, water colors, or pastels. *II.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 4.

8. MODELING.—This course is designed to give freedom in handling clay and introduce the student to the third dimension,—relief, never fully appreciated from the study of drawing and painting. The greater part of the semester is devoted to sketching (from cast and from life), with occasional careful copies of the antique and original designs for plaster decorations, iron, and terra cotta.. The course is especially planned to offer students from the department of architecture every opportunity for the study of architectural ornament. Instruction is given in casting. *Frederick's Plaster Casts and How They are Made. I., II.; section A, M., W., F.; 3, 4; section B, M., W., F.; 6, 7; (2).*

8a. A special section is made for architectural students. *I.; M., F.; 7, 8; II.; Tu.; 2, 3, 4; (1).* Professor FREDERICK.

Required: Art and Design 1 or 3.

9. ADVANCED MODELING.—This course is a direct continuation of course 8. Architectural students work full scale capitals, spandrels, panels, etc., of their own design. Special art students and others work largely in the round from the antique and from life. *II.; section A, M., W., F.; 3, 4; section B, M., W.,F.; 6, 7; (2).* Professor FREDERICK.

Required: Art and Design 8.

10. PEN RENDERING.—In this course drawings are made with special reference to the requirements of the reproductive processes.

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The instruction is entirely individual, students working along lines most helpful to them in their several courses. *I.; S.; 2, 3, 4; (1).* Professor FREDERICK.

Required: Art and Design 1 or 3.

11. LIFE CLASS.—Study of the draped human figure with reference to portraiture and illustration. *II.; daily; 6, 7; criticism, M., F.; (3).* Professor WELLS.

Admission to this class on examination by the instructor only.

12. INDUSTRIAL DESIGN.—Study of the relation of design to manufacture. *I., II.; daily; time to be arranged; (3).* Professor FREDERICK.

Required: Art and Design 1, 2 or 3, 4, 8, 10.

14. PERSPECTIVE.—Lectures upon the principles of (mechanical) perspective. The problems given are arranged to have a direct bearing upon the work of other courses in the department. Two hours per week outside work required. *I., II.; Tu.; 5; (1).* Professor FREDERICK.

16. COLOR.—An elementary course planned to supplement the weekly exercises in design given in courses 1, 2 and 3. Lectures upon the use of color in decoration. Comparison of the several published theories of color. In the second semester illustrated lectures upon historic ornament are given, and practical designs in the spirit of each historic school are produced. Two hours per week outside work required. *I., II.; Th.; 5; (1).* Professor FREDERICK.

19. HISTORY AND CRITICISM OF THE ART OF PAINTING.—Fortnightly illustrated lectures extending through the school year. *I., II.; time to be arranged. (½).* Professor WELLS.

20. TEACHERS' CLASS.—In this class an application of the work of the other courses offered by the department to public school problems is made. Published courses of art study for the public schools are compared, and the class plans and arranges a course of art study for the eight grades of the public schools. Two hours per week outside work required. *I., II.; W.; 8; (1).* Mr. LAKE.

ASTRONOMY

4. GENERAL ASTRONOMY.—Minor course. The course aims to supply a general knowledge of the facts of astronomy, a clear conception of underlying principles, and some acquaintance with the methods of arriving at these facts. Studies are made in the location of constellations and stars. In this course, practical questions are considered, though not made matters of chief importance, the literary and purely scientific features of the science being assigned chief prominence. *Young's Elements of Astronomy,* also *Young's*

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General Astronomy. II.; daily; section A, 4; section B, 6; (5). Mr. BRENKE.

Required: Mathematics 4.

5. GENERAL ASTRONOMY AND COSMOGONY.—This is a continuation of course 4, and together with 4 it constitutes a line of study for students who wish to pursue astronomy as a major subject. In the latter part of this course the evidence both for and against the Nebular Theory is reviewed. The role of the tides in cosmogonic development receives special consideration, and the present view of the origin and cosmic history of the earth-moon system, together with the testimony of astronomy relating to it, are recapitulated to the epoch where astronomy yields to geology. A summarized statement of the results of the researches of Darwin and of Lord Kelvin is included. *I.; M., W., F.; 6; (3).* Mr. BRENKE.

Required: An entrance credit in astronomy.

6. PRACTICAL ASTRONOMY.—This course, which is offered both for engineers and special astronomical students, is intended to give the student training in the use of instruments of precision. As a subordinate matter, he is introduced to instruments of a higher grade than those employed in ordinary surveying. A second purpose of the course is to train the student in the art of computing. Model forms of record and reduction for problems are set before him, and the advantage of compact and orderly arrangement of all work is strenuously insisted upon. As a concrete outcome of the above training, the student should acquire the ability to determine latitude, time, and azimuth with such instruments as are used in the ordinary practice of civil engineering. An essential part of the work is the theory of astronomical instruments. *Campbell's Practical Astronomy. I.; Tu., Th.; 6, 7; (2).* Mr. BRENKE.

Required: Astronomy 4.

7. THEORY OF ORBITS AND SPECIAL PERTURBATIONS.—This course embraces the following subjects: The formation and integration of the differential equations of motion of a system of bodies and the derivation of the laws of undisturbed elliptic, parabolic, and hyperbolic motion. An investigation of the various formulæ and methods for finding the special perturbations of a heavenly body constitutes an essential part of this course. The methods of Encke, Hansen, and of Variation of Parameters, are developed and studied at length. *Oppolzer's Lehrbuch der Bahnbestimmung.* Mr. BRENKE.

Required: Mathematics 1, 3, 7, 9, 14, 16; Astronomy 4.

9. CELESTIAL MECHANICS.—This course is a continuation of

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course 7, and has to do chiefly with the development and discussion of the absolute perturbations both for the case in which the orbital eccentricities and inclinations are small, and in which they are so large as to make the ordinary series too slowly convergent, or even divergent. Some time is also given to the study of subjects connected with figures of equilibrium of the heavenly bodies, and such other questions as are treated in Tisserand's Mecanique Celeste. Mr. BRENKE.

Required: Astronomy 7.

10. ASTRONOMICAL SEMINARY AND THESIS.—The work of this seminary is on subjects either related to those considered in the senior courses, or connected with questions arising out of thesis investigations. This course is given in conjunction with Astronomy 7 and 9, or with Mathematics 12 and 13, according as the one or the other is current. *I., II.; Tu., Th.; 7; (2).* Mr. BRENKE.

11. CALCULUS OF VARIATIONS.—See Mathematics 20.

12. SPHERICAL HARMONICS.—See Mathematics 21.

13. POTENTIAL FUNCTION.—See Mathematics 22.

14. OBSERVATIONAL ASTRONOMY.—The laboratory method of presentation is exclusively used in this course. Direct observational studies of celestial phenomena, with and without instrumental aid, constitute the major portion of the work. The problems set for solution will be largely individual and will be adapted to the degree of skill and maturity of the student. Advanced students may here find an introduction to the working methods of an astronomical observatory. In connection with Astronomy 5 it presents the underlying principles and methods of astronomy from both the theoretical and practical sides, to such an extent as to meet the requirements of a liberal education. *I.; Tu., Th.; arrange hours; (2).* Mr. BRENKE.

Required: Mathematics 1, 3.

BOTANY

1. HISTOLOGY AND PHYSIOLOGY.—General vegetable histology and vegetable physiology, or study of the cells and tissues of plants and their courses of development in structures and organs; and studies in the general activities of plants correlated with external conditions. Lectures or recitations and laboratory work. *II.; daily; 6, 7; (5).* Professor BURRILL and Mr. HOLFERTY.

Required: Entrance credit in Botany, or Botany 11; Chemistry 1; Art and Design 1.

2. MORPHOLOGY.—The general morphology and taxonomy of plants, including a study of selected types in each of the great divisions of the vegetable kingdom. Lectures or recitations and labora-

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tory work, with occasional field excursions. *I; daily; 6, 7; (5).* Professor BURRILL and Mr. HOLFERTY.

Required: Entrance credit in Botany, or Botany 11; Art and Design 1.

In courses 1 and 2 taken together, either in the order of the numbers or the reverse, there is offered a comprehensive treatment of the subject, to serve the double purpose of an introduction to the science for those who desire to continue the study, and as a complete course for general students. Each semester's work is, however, independent, and may be separately credited.

CYTOLOGY AND PHYSIOLOGY.—Mostly laboratory work and assigned reading. The course extends through the year, but the work of each semester may be credited separately under the designations of 3a and 3b. The first semester is devoted mainly to cytology and histology, with special attention to technique; during the second semester experimental physiology receives chief attention. *I., II.; daily; 1, 2; (5).* Professor BURRILL and Mr. .....

Required: Botany 1.

4. TAXONOMY OF SPECIAL GROUPS.—Mostly laboratory and herbarium work, and assigned reading. Field excursions are required. The course extends through the year, but the work of each semester may be credited separately under the designations of 4a and 4b. The first semester is devoted mainly to spermaphytes, the second to sporophytes. *I., II.; daily; 1, 2; (5).* Professor BURRILL.

Required: Botany 2.

5. BACTERIOLOGY.—An introduction to the knowledge of the subject and instruction in methods. *II.; daily; 3, 4; (5).* Professor BURRILL and Mr. HOLFERTY.

Required: Chemistry 1, and at least one semester's work in Botany or Zoölogy, in the University.

6. BACTERIOLOGY FOR SANITARY ENGINEERS.—Bacteriological methods and their application in water analysis and sewerage. *I; (last seven weeks); daily; 3, 4; (2).* Professor BURRILL and Mr. HOLFERTY.

7. PLANT PATHOLOGY.—Diseases and injuries of plants. Mostly laboratory, herbarium, and field work, and assigned reading. *I.; M., W., F.; 1, 2; (3).* Professor BURRILL and Mr. CLINTON.

Required: Botany 1, 2.

8. ECONOMIC BOTANY.—Useful plants and plant products. Lectures and assigned reading. *I.; Tu., Th.; 1, 2; (2).* Professor BURRILL.

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9. INVESTIGATIONS AND THESIS.—Research work upon selected subjects. Special arrangements for this work should be made during the preceding year. *I., II.; daily; arrange time; (5).* Professor BURRILL.

Required: Botany 1, 2 and at least one year from 3, 4, 5, 7.

10. SEMINARY.—Reports and discussions upon assigned topics and results of research work. For advanced and graduate students. *I., II.; F.; arrange time; (1).* Professor BURRILL.

11. INTRODUCTORY COURSE.—Elementary work chiefly upon flowering plants, including their general structure, activities life-relations, and classification. The laboratory work is supplemented by field observations and by the study of text. Registration is accepted for the first or last half, or for the whole of the semester. The work during the first nine weeks is upon the structures and organs of plants, and upon the classification of specimens; afterward anatomy, physiology and ecology have chief attention. The first half is recorded as course 11a, the second half as 11b. The course as a whole is planned to offer an opportunity of gaining a general knowledge of the most familiar and most important groups of the vegetable kingdom, and is open to those not presenting the subject for entrance credit. *I.; daily; 1, 2; (2½ or 5).* Mr. HOLFERTY.

COURSES FOR GRADUATES

101. BIOLOGICAL BOTANY.—The preparation and study of material by histological and embryological methods, and experiment work with living vegetation in the laboratory and field in working out special problems in the development, physiology, and pathology of plants.

102. SYSTEMATIC BOTANY.—Critical and comparative studies of species included in chosen groups of spermaphytes or sporophytes, or from selected geographic areas, in connection with considerations of genealogic development, geographic distribution, and interrelated association.

103. BACTERIOLOGY.—Investigations upon morphologic and physiologic variation due to treatment; systematic studies upon the number, validity, and relationship of species, researches upon special saprophytic or parasitic kinds of bacteria and upon methods of favoring or combating their activities.

104. EVOLUTION OF PLANTS.—Observations and experiments upon plants and studies in related literature, in gaining information upon such topics as the following: The influence of environment, effects of self and cross fertilization, tendencies of variation, philosophy of selection, nature and laws of heredity.

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CHEMISTRY

1. ELEMENTARY AND EXPERIMENTAL CHEMISTRY.—This course deals with the general principles of the science; the commoner elements and their typical compounds are studied somewhat in detail; attention is constantly directed to the applications of chemistry in daily life and industrial processes.

The laboratory work comprises a series of such experiments, many of them quantitative, as serve best to illustrate the relations between the observed facts and the general principles, and to familiarize the student with the methods and facts of chemistry, *Richter's Inorganic Chemistry. I.; Lecture, W., F.; 5; Laboratory section A, M., W., F.; 1, 2 or 2, 3; section B, Tu., Th., Sat.; 2, 3 or 3, 4; section C, M., W., F.; 6, 7 or 7, 8; Section D, (engineers only) Tu., Th.; 6, 7 or 7, 8. Quiz; section A, M.; 2; Th.; 5; section B, M.; 5; Th.; 3; section C, W.; 7; Sat.; 4; section D, Tu.; 5; Th.; 7. For engineers (4); for all others (5).* Professor PALMER, Associate Professor GRINDLEY, Mr. SAMMIS, Mr. DEHN, and Mr. JOHNSTON.

1a. MINOR COURSE—ELEMENTARY AND EXPERIMENTAL CHEMISTRY.—Similar to 1, but consisting chiefly of recitations and laboratory work. *Richter's Inorganic Chemistry. II.; Recitations, Tu., Th., S.; 1; Laboratory, M., W., F.; 1, 2 or 2, 3; (5).* Associate Professor GRINDLEY, Mr. SAMMIS and Mr. DEHN.

2. DESCRIPTIVE INORGANIC CHEMISTRY.—This course is required of all chemical students. It is mainly devoted to a study of the metallic elements, their classification, compounds, and chemical properties. The work is from lectures and assigned texts, without laboratory work. *Remsen's Advanced Course. II.; section A, M., W., F.; 2; section B, M., W., F.; 3; (3).* Associate Professor GRINDLEY.

Required: Chemistry 1.

2a. INORGANIC PREPARATIONS.—This is a laboratory course designed to accompany the descriptive work of course 2. The work includes the precipitation, crystallization, and purification of various salts, the material being largely obtained from laboratory wastes. *Thorp's Inorganic Chemical Preparations. II.; Tu., Th., S.; 1, 2, 3; (3).* Associate Professor GRINDLEY, Mr. SAMMIS, and Mr. DEHN.

Required: Chemistry 1.

3. QUALITATIVE ANALYSIS.—This course includes a study of salts, their formation, solubilities, chemical reactions, etc. The periodic classification of the elements is made the basis for developing the principles of analysis. The work in the laboratory, after illustrating these principles, is occupied with the determination of

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basic and acid constituents of a given number of unknown substances. Analysis is also made of more complex substances, including natural and commercial products; and the work concludes with a comparative study of methods, difficult separations and problems in synthesis. *I. or II.; Lecture, section A, Tu., Th.; 2; section B, Tu., Th.; 5; Laboratory daily, section A, 3, 4; section B, 6, 7, or 7 and 8; section C, M., W., F., 6, 7, 8; (5).* Associate Professor GRINDLEY, Mr. Sammis, Mr. DEHN and Mr. JOHNSTON.

Required: Chemistry 1.

3b. QUALITATIVE ANALYSIS MINOR.—Same as 3a, but requiring the first half of the semester. *(2½).* Associate Professor GRINDLEY, Mr. Sammis, Mr. DEHN, and Mr. JOHNSTON.

Required: Chemistry 1.

4. ELEMENTS OF ORGANIC CHEMISTRY, MINOR.—A course in organic chemistry provided more especially for students of agriculture and general science. The instruction is directed mainly to the consideration of the general characteristics and the mutual relations of certain of the more important classes of carbon compounds, partucularly the fats, the carbohydrates, and the proteids. *II. (last half); Lecture, M., W., F.; 3; Laboratory, Tu., Th., 3, 4; M., W., F., 4; (2½).* Professor PALMER and Mr. SAMMIS.

Required: Chemistry 1, 3b.

5a. ELEMENTARY QUANTITATIVE ANALYSIS.—This course constitutes a general introduction to the foundation principles of gravimetric and volumetric analysis. Especial attention is given to the proper use of analytical apparatus, the sources of error in analytical processes, the means of avoiding such errors, and the methods of calculating results. Mechanical dexterity is developed, together with an intelligent knowledge of the reasons for choice of methods and procedure.

During the first twelve weeks the work is the same for all; but during the last six weeks it is differentiated in order, on the one hand, to meet the needs of those students who are preparing to study medicine, and, on the other hand, to fulfil the requirements of those who expect to graduate in chemistry. This course is preliminary to all other courses in quantitative analysis. Reading is assigned in Fresenius, Ostwald, Sutton and Blair. *I.; Lectures Tu., Th.; 5; Laboratory, 10 periods per week in two sections, Sec. A, M., W., F.; 6 7, 8; Sec. B, Tu., Th.; 6, 7, 8; Sat.; 1, 2, 3; (5).* Professor PALMER and Mr. DERBY.

Required: Chemistry 1, 3a.

5b. ADVANCED QUANTITATIVE ANALYSIS.—The quantitative separation and determination of the elements are discussed systemat-

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ically in the lectures, and in the laboratory more or less complicated analyses of mixed salts, silicates and other refractory materials are assigned, depending somewhat on the needs of the individual student. Results of a much higher degree of accuracy than those required in 5a, will be expected. *I.; Lectures, M., W.; 2; Laboratory, 3 or 9 periods a week; (3 or 5).* Mr. DERBY.

5c. FOOD ANALYSIS.—This course includes the analysis of milk, butter, food stuffs, grains, milled products, meats, alcoholic beverages, etc. Students who have taken work amounting to five hours' credit in this course may arrange to do more advanced work along the following lines: (a) The study of methods for detecting food adulterations; (b) the separation and determination of the nitrogenous constituents of animal and vegetable foods; (c) the identification and estimation of the carbohydrate constituents of food products. *II.; Lecture, Tu.; 6; Laboratory, 4 to 12 periods a week; arrange time; (3, 5, 8 or 10).* Associate Professor GRINDLEY and Mr. PROHASKHA.

Required: Chemistry 5a.

6b. METALLURGY.—Special attention is given to the effect of impurities in ores upon metallurgical processes and finished products. Fuels, refractory materials, and fluxes are described and their value and application explained. A series of lantern slides illustrating actual plants in operation, together with specimens of furnace material and products are used in illustration. Much use is made of journals, annuals, and monographs setting forth the best practice. *I.; M., W., F.; 3; (3).* Professor PARR.

Required: Chemistry 5a.

7a. ELEMENTARY PHYSICAL CHEMISTRY.—This course, extending through one semester, is designed to give an elementary knowledge of the paramount facts of physical chemistry, and their relation to common and practical chemical problems. The instruction is by lectures and recitations, supplemented by work in the laboratory. *II.; Lectures, Tu., Th.; 4; Laboratory, 6 periods per week, Tu., Th.; 6, 7, 8; (3 to 5).* Mr. DERBY.

7b. ADVANCED PHYSICAL CHEMISTRY.—To those who have the time, Chemistry 7b affords a more thorough course in Physical Chemistry than can be included in 7a. Some attention is given to the more elementary mathematical expression of chemical laws and chemical action. An elementary knowledge of differential calculus is desirable but not required. The work includes a study of gases, liquids, and solids, their relations to each other, the properties of solutions as related especialy to boiling point, freezing point, dis-

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sociation, electrical conductivity, and osmotic pressure; also thermochemistry as exhibited in specific heats, heats of fusion, of vaporization, of solution, of chemical reaction, etc., etc., finally a brief study of reaction velocity, and the relation of light, magnetism, static electricity, etc., to chemistry and chemical phenomena. *I., II.; W., F.; 3; (4).* Mr. DERBY.

7c. PHYSICAL CHEMISTRY.—This course is intended to accompany and supplement Chemistry 7b. It is entirely a laboratory course, and may be taken either at the same time as 7b. or in a succeeding year. The field covered experimentally is essentially the same as that covered in the lectures of 7b. *I., II.; arrange time; (4-10).* Mr. DERBY.

7d. ELECTRO CHEMISTRY.—The development of the foundation theories is discussed, and the growth of the modern ideas of electrolytic chemical phenomena traced; such for example as polarization, electrolytic action as related to chemical affinity, conditions governing electrolytical processes, etc. Lectures twice a week. *I., II.; by appointment; (2).* Mr. DERBY.

7e. ELECTRO CHEMISTRY.—Laboratory work to accompany the lecture course Chemistry 7d. To be taken parallel with or subsequent to that course, and including practice in synthetic inorganic and organic preparation work. *I., II.; by appointment; (2-5).* Mr. DERBY.

Required: Physics 1, 3; Chemistry 1, 3a, 5a, 9.

7f. SPECTROSCOPIC ANALYSIS.—This course comprises lecture work with laboratory practice. The student will do practical work with the spectroscope in determining qualitatively the constituents of various mixtures, minerals and solutions by means of the spark, oxhydrogen flame, and absorption spectra. *I., II.; by appointment; (2-4).* Professor PALMER and Mr. DERBY.

Required: Physics 1, 3; Chemistry 1, 3a, 4 or 9, 5a, 7; Mineralogy 2.

8. IRON AND STEEL ANALYSIS. Analyses are made of all the constituents by both rapid or technical and standard methods. The course also includes the analysis of furnace slags and a study of the methods for decomposing ores and refractory products. *II.; daily; arrange time; (3).* Professor PARR.

Required: Chemistry 5a.

9. ORGANIC CHEMISTRY.—The work of this course consists in the detailed discussion of the characteristics of several of the more typical and simple organic compounds, followed by the briefer con-

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sideration of most of the important classes of the derivatives of carbon. *Remsen's Organic Chemistry* is used as a text-book, and *Richter's Organic Chemistry* as a reference book. Must be accompanied by either 9a, 9b, or 9c. *II.; M., W., F.; 7; (3).* Professor PALMER and Mr. DERBY.

Required: Chemistry 2, 5a.

9a. ORGANIC SYNTHESIS.—Laboratory work for students of the chemical course, consisting of the preparation of typical organic compounds. *II.; arrange time; (2).* Professor PALMER and Mr. DERBY.

9b. ORGANIC ANALYSIS.—Laboratory work for students of the chemical course, consisting of either ultimate organic analysis or proximate organic analysis, or both. *I.; Laboratory, 9 or 15 periods a week; arrange time; (3 or 5).* Professor PALMER and Mr. DERBY.

9c. Laboratory work in organic chemistry for students of the medical preparatory course. A few typical organic compounds are prepared, but the work consists mainly in a study of the chemical reactions and transformations of such organic substances as are especially involved in processes of nutrition or are used in medical practice. *II.; Laboratory, 6 or 15 periods a week; arrange time; (2 or 5).* Professor PALMER and Mr. PROHASKA.

10. SANITARY ANALYSIS.—The work consists in the examination and analysis of potable and mineral waters, air, etc. *I.; M., W., F., or daily; 3, 4; (3 or 5).* Professor PALMER and Mr. KOCH.

Required: Chemistry 5a or 20.

11. INVESTIGATIONS AND THESIS.—Candidates for graduation from the chemical courses are required to devote at least three hours per day for one semester to the investigation of some selected chemical subject, the results of which are to be embodied in a thesis. The subject must be determined upon by consultation with the professors of chemistry before the first Monday in November. Between that time and the end of the holiday recess an index to the bibliography of the subject must be prepared and presented to the professor in charge of the investigation. *I., II.; 15 periods a week; arrange time; (5 each semester).* Professors PALMER and PARR, and Associate Professor GRINDLEY.

Required: Chemistry, 30 hours.

12. THEORETICAL CHEMISTRY.—A brief historical survey of the development of the science, from the earliest times to the present. The course includes the discussion of the evolution of ideas concerning fundamental principles, laws and theories of chemistry, description of the applications of chemistry in related sciences, and

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the growth of important chemical industries. Lectures and assigned reading. *II.; M., W.; 2; (2).* Professor PALMER.

Required: Chemistry 4 or 9, 5a, 7a.

13a. AGRICULTURAL ANALYSIS.—This course is arranged to meet the special wants of agricultural students. The work begins with the quantitative determination and separation of the more important constituents of soils, fertilizers and agricultural products; it includes the chemical analysis of foodstuffs such as grains, fodders, dairy products and meats, as well as the analysis of fertilizers and soils. *I.; daily; 3, 4; (5).* Associate Professor GRINDLEY and Mr. PROHASKA.

Required: Chemistry 3a or 3b, 4

13b. ADVANCED AGRICULTURAL ANALYSIS.—This course is offered to students who wish to specialize in agricultural chemistry or agricultural experimentation. The work includes the analysis of butter and cheese, the complete analysis of foods, soils, plants, plant ash, rain and drain waters, and the determination of the fuel value of foods. If desirable the work may be varied to meet the special needs of the individual student. *II.; daily; 7, 8; (3-5).* Associate Professor GRINDLEY and Mr. PROHASKA.

Required: Chemistry 5a, or 13a.

14. ORGANIC CHEMISTRY.—Lectures and reading upon special chapters of organic chemistry. *I.; M., W., Th.; 7; (3).* Professor PALMER.

Required: Chemistry 9.

15. (a) and (b) METALLURGICAL CHEMISTRY.—This course includes (a) the wet assay of copper, lead, zinc, and other ores, arsenical and complex as well as the simpler forms, also the analysis of finished metallurgical products; as, commercial lead, spelter, copper, etc.; during the last half of the term the work is occupied (b) with the fire assay of lead, gold, and silver ores. Fluxes, reagents, and charges are studied in connection with various typical ores and practice given in use of the crucible and muffle furnaces and in the manipulations connected with fire assaying. *I.; M., W., F.; 3, 4, 5; (4).* Professor PARR and Mr. KOCH.

Required: Chemistry 5a; Mineralogy 1.

15. (c) and (d) ELECTRO-CHEMICAL ANALYSIS.—A study (c) of methods and practice in quantitative determination by electrolytic separation and deposition of metals and compounds, and (d) a study of the methods employed in the electrolytic separation and refining of metals, treatment of ores, etc. The laboratory work involves practice in actual separations, a quantitative check being made

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on all results. *II.; M., W., F., or daily; 3, 4, 5; (3 to 5).* Professor PARR and Mr. KOCH.

Required: Chemistry 5a.

16. CHEMISTRY FOR ENGINEERS.—This course is arranged particularly for mechanical engineers. It involves the proximate analysis of coals, determination of calorific power, technical analysis of furnace gases, examination of boiler waters, lubricating oils, ets. *II.; Lecture, F.; 5; Laboratory, section B, Th.; 3, 4, 5; F.; 3, 4; section A, W.; 4, 5; Th.; 3, 4, 5; (3).* Professor PARR and Mr. KOCH.

Required: Chemistry 1.

17. INDUSTRIAL CHEMISTRY.—A laboratory course in the preparation of chemical products from raw materials. The manufacture and proving of pure chemicals, fractionation and other processes of the manufacturing chemist. *II.; daily; Laboratory 15 periods a week; arrange time; (5).* Professor PARR.

Required: Chemistry 5a, 18.

18. SPECIAL ADVANCED COURSES.—Special courses as indicated below, consisting mainly of laboratory work, may be arranged for those competent to pursue them. From 1 to 10 hours' credit will be allowed in the undergraduate courses for such work.

(a) Technical Gas Analysis, qualitative and quantitative analyses of gases and gas mixtures, including use of all the important forms of modern apparatus for rapid and accurate work. *Winkler's Industrie-Gase. I.; Lecture, M.; 2; Laboratory; arrange hours; (2-5).* Mr. DERBY.

(b) Metallurgical Chemistry. Professor PARR.

(c) Chemistry of beet sugar industry. Associate Professor GRINDLEY.

(d). Analysis of paints, oils, and varnishes. *Arrange time.* Professor PARR.

19. SEMINARY.—Reports and discussions upon assigned topics from current chemical literature. One session each fortnight during the junior and senior years. *S.; (1).* Professor PALMER.

20. QUANTITATIVE ANALYSIS.—An elementary course intended especially for such students of other departments as desire some training in the processes of quantitative analysis, but have not the time or the opportunity to enter the regular course in this subject. The work may vary in character, to some extent, according to the need of the individual student. *I. or II.; any two or four days; arrange time; (2 or 3).* Mr. DERBY.

21. PROXIMATE ORGANIC ANALYSIS. Analysis and valuation of

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various commercial organic materials and products: (a) Pharmaceutical assaying, including the valuation of drugs and various pharmaceutical preparations, tinctures, extracts, etc., etc.; (b) analysis of proprietary articles, medicines, pills, ointments, salves, etc.; (c) fats, waxes, oils, perfumes, flavoring extracts; (d) dyestuffs. Analysis, tests and identification of raw materials, coloring matters and dyes upon the fiber. (e) Rubber, paper, fibers, inks, glue, etc. *Allen's Commercial Organic Analysis, Sadtler and Trimble's Pharmaceutical Chemistry. I. or II.; arrange time; (5 or 10).* Professor PALMER and Mr. PROHASKA.

22a. PHOTOGRAPHY.—Offered to engineering students and others who wish to obtain a general knowledge of photography. In this course the general subject is covered by lectures and laboratory work, the latter varying to some extent to suit the special line of work that the student expects to follow. *I.; Lecture, Tu., Th.; 6; Laboratory, 4 periods, time to be arranged; (2).* Professor PARR and Mr. WILDER.

Required: Physics 1, 3; Chemistry 3b, unless otherwise arranged.

22b. PHOTOGRAPHY.—Offered especially for scientific students and others desiring a more thorough knowledge of photography than is offered in course 22a. This course is of special value to any intending to teach those branches in which the optical lantern is extensively used. The early part of the course is devoted to a general review of the methods and practices of photography, with sufficient laboratory work to make the student familiar with the same. Following this some time is devoted to the optical lantern, with sufficient practice on the part of the student to familiarize him with the manipulation of such apparatus. This is accompanied by instruction in the making and use of lantern slides. Instruction in photo-micrography also has a place in this course, and students so desiring may pursue such work as far as time and the facilities of the department will allow. *II.; Lecture, M., W., F.; Laboratory, 6 periods, time to be arranged; (3).* Professor PARR and Mr. WILDER.

Required: Chemistry 3a; Physics 1, 3. In the College of Science, when recommended by Dean, these requirements may be omitted.

22c. REPRODUCTION OF DRAWINGS, ETC.—Provision is here made for a general course in the methods of reproduction made use of in the engineering professions. Blue-printing, black-printing, hectographing, and the other methods in use are explained by lectures and laboratory work. No distinct credit is given for such work, but the

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time so spent is deducted from that required in other courses, and so credited to the student doing the work. This work is offered to such students as may be required to do it as a part of some regular course, the time so spent to be determined by the instructor having such regular course in charge, and to students who elect it with approval of the proper authority. Mr. WILDER.

23 (a) and (b). HOUSEHOLD CHEMISTRY.—The first semester is largely devoted to practice in general analytical methods, both gravimetric and volumetric. The second is occupied chiefly with the examination of materials used in the household. Analyses are made of baking powders, vinegars, syrups, sugars, soaps, soap powders, wall papers, etc. *I., II.; daily; 6, 7; (5).* Associate Professor GRINDLEY and Mr. PROHASKA.

Required: Chemistry 3a.

24. TOXICOLOGY.—Mainly laboratory work upon the detection and estimation of the more common poisons, organic and inorganic, wall papers, etc. *I., II.; daily; 6, 7; (5).* Professor PALMER and Mr. KOCH.

Required: Chemistry 2, 3b, 5a, and either 4 or 9.

25. URINALYSIS.—Chemical and microscopic examination of urine. *I. or II.; Laboratory 6 periods, arrange time; (2).* Mr. PROHASKA.

Required: Chemistry 2, 3b, 5a.

COURSES FOR GRADUATES

101. ORGANIC CHEMISTRY.—Special investigations in the aliphatic or in the aromatic series.

102. INORGANIC CHEMISTRY.—Research work in general inorganic chemistry, including the critical and constructive study of methods of analysis, both quantitative and qualitative.

103. PHYSICAL CHEMISTRY.—Investigation of special problems, including also thermo-chemical research.

104.—CHEMISTRY OF FOODS.—Investigations of the composition, fuel value, digestibility, and dietary value of foods and the chemical changes involved in cooking.

105. AGRICULTURAL CHEMISTRY. Special investigations in the field of agricultural chemistry, including the chemistry of plants, foods, soils, and rain, drain, and ground waters.

106. RESEARCH IN METALLURGICAL CHEMISTRY.—(a) Action of solvents in extraction of gold and silver from their ores. (b) Methods of analysis of ores and products.

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107. INVESTIGATION OF WATER SUPPLIES.—In connection with State Water Survey.

108. INVESTIGATION OF FUELS.—

(a) Heating power, calorimetric methods.
(b) Adaptation of bituminous coal to gas manufacture, purification of products.
(c) Coke and by-products.

109. SPECIAL PROBLEMS IN INDUSTRIAL CHEMISTRY.—

(a) Corrosion and scaling of steam boilers.
(b) Purification of feed waters.
(c) Cements and mortars.
(d) Paints and pigments.

CIVIL ENGINEERING

4. RAILROAD ENGINEERING.—In the field practice the class makes preliminary and location surveys of a line of railroad of sufficient length to secure familiarity with the methods of actual practice. Each student makes a complete set of notes, maps, profiles, calculations, and estimates. The principles of economic location and the construction of railways are considered. A study is made of railway appliances and of maintenance-of-way practice. *Nagle's Field Manual Railroad Engineers, and Tratman's Track. I.; section A, Tu., Th., S.; 2, 3, 4; W., F.; 2; section B, M., W., F.; 6, 7, 8; Tu., Th.; 6; (5).* Mr. KUEHN.

Required: Civil Engineering 21, 22, 23.

4a. RAILROAD ENGINEERING.—The first eleven weeks of course 4 are for students in municipal and sanitary engineering. *(3).*

5. MASONRY CONSTRUCTION.—The students have experiments in the masonry laboratory, in testing cement, mortar, stone, and brick. *Baker's Masonry Construction. I.; M., Tu., W., Th., 1; Laboratory F., 6, 7; (5).* Professor BAKER.

Required: Theoretical and Applied Mechanics 2; General Engineering Drawing 1, 2.

6. GEODESY.—Geodesy is taught by lectures and assigned reading. *II.; W.; 6, 7; (1).* Mr. KUEHN.

Required: Math. 3; General Engineering Drawing 1, 2; Civil Engineering 21, 22, 23; Descriptive Astronomy 4.

10. SURVEYING.—For students in the courses of architecture, architectural engineering, electrical engineering, and mechanical engineering. Areas with chain and compass, U. S. public land surveys, and principles of reëstablishing corners; use of transit in finding distances, areas, and in laying out buildings; use of the

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level in finding profiles and contours. *Baker's Engineers' Surveying Instruments. II.; section A (for Mech. Eng'rs), M., Tu., W.; 3, 4; section B (for Arch. and Arch. Eng'rs), Th., F., S.; 3, 4; (3).* Mr. KUEHN.

Required: Math. 4; General Engineering Drawing 1, 2; Physics 1, 3.

12. BRIDGE ANALYSIS.—Instruction and practice are given in the computation of the stresses in the various forms of bridge trusses, by algebraic and graphical methods, under different conditions of loading. *Johnson's Modern Framed Structures. I.; daily; 2, 3; (5).* Professor BAKER.

Required: Theoretical and Applied Mechanics 2; Architecture 5.

13. BRIDGE DETAILS.—The student makes a tracing of a shop drawing of a bridge, and then makes a critical report upon each element of the design and computes the cost. Afterward a comparative study is made of the several forms of details employed by leading designers. This must be taken with course 12 above during the first semester, and with course 14 below during the second semester.

Required: Civil Eng'g 12 and free-hand sketches, with dimensions, showing full details of a bridge measured by the student.

14. BRIDGE DESIGN.—Each student designs a bridge, proportioning the sections and working out the details, and afterward makes a complete set of drawings. *II.; daily; 1, 2; (5).* Professor BAKER.

Required: Civil Engineering 12, 13.

14a. BRIDGE DESIGN.—Course 14 above three times a week for Municipal and Sanitary Engineering students. *II.; M., W., F.; 1, 2; (3).*

15. TUNNELING.—This subject is given by lectures and assigned reading. Students are required to make written reports upon the methods employed in particular tunnels. Some time is given to practice in boring wells, dredging, quarrying, and sub-aqueous blasting. *II.; W.; 6, 7; (1).* Mr. KUEHN.

Required: Math. 1, 3, 6; General Engineering Drawing 1, 2; Mechanical Engineering 1, 16, 17; Chemistry 1; Physics 1, 3.

16. ENGINEERING CONTRACTS AND SPECIFICATIONS.—A study is made of the fundamental principles of the law of contract, and of examples of the general and technical clauses of various kinds used in engineering specifications. *Johnson's Engineering Contracts and Specifications. II.; W., F.; 4; (2).* Assistant Professor KETCHUM.

Required: Civil Engineering 5, 12, 13; Municipal and Sanitary Engineering 2, 3.

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17. RAILROAD STRUCTURES.—Instruction is given by lectures and references to standard authorities. Current practice is studied by the examination of existing structures and by means of a collection of the standard drawings of leading railroads. *II.; Tu., Th.; 3, 4; (2).* Assistant Professor KETCHUM.

Required: Civil Engineering 4.

21. SURVEYING.—Instruction is given by means of recitations, lectures, field and office work in the theory, use and adjustment of the compass, level transit, plane table, and sextant. The field work includes the determination of distances by pacing and with the chain and tape; the determination of areas with the compass; transit and plane table; the finding of profiles with the level. A careful study is made of the U. S. land survey methods, and court decisions relating to the re-establishment of corners, boundaries, etc. Problems are assigned in the re-location of boundaries, partition of land, interpretation of deeds and in city and farm surveying. Some time is devoted to topographic drawing. *Baker's Engineers' Surveying Instruments,* and *Pence and Ketchum's Surveying Manual. I.; daily; section A, 1, 2; section B, 6, 7; (4).* Assistant Professor KETCHUM.

Required: General Eng'g Drawing 1, 2; Math. 3.

22. TOPOGRAPHIC SURVEYING.—The theory and use of the stadia and other instruments used in making a topographic survey are considered, as are also the methods of topographic surveying. A complete topographic survey based on a system of triangulation is executed, including the calculations, and platting and completing the map. Some time is given to the precise measurement of bases and angles. Instruction is given in blue-printing and duplicating drawing. *Wilson's Topographic Surveying and Pence and Ketchum's Surveying Manual. II; M., Tu., W., Th.; section A, 1, 2; section B, 6, 7; (4).* Assistant Professor KETCHUM.

Required: Civil Eng'g 21; Gen. Eng'g Drawing 1, 2; Math. 3.

23. RAILROAD CURVES.—A study is made of the geometry of the circle as applied to railroad curves and of the methods of locating curves in the field. *Nagle's Field Manual for Railroad Engineers. II.; F.; section A, 1, 2; section B, 6, 7; (1).* Mr. KUEHN.

Required: Civil Eng'g 21, 22; Gen. Eng'g Drawing 1, 2; Math. 3.

COURSES FOR GRADUATES

All primary unless otherwise stated.

101. Location and Construction.

102. Railway Track and Structures, and their Maintenance.

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103. Yards and Terminals.
104. Motive Power and Rolling Stock.
105. Signal Engineering.
106. Railway Operation and Management.
107. Bridge Designing.
108. Cantilever and Swing Bridges.
109. Metallic Arches.
110. Metallic Building Construction.
111. Roof Construction.
112. Stereotomy.
113. History of the Development of Bridge Building—Secondary.
128. Practical Astronomy.
129. Description of Work Done.
130. Critical Description of Engineering Construction.
131. Translation of Technical Engineering Works from French or German.
132. Any Primary in Theoretical and Applied Mechanics or Municipal and Sanitary Engineering.
133. Any Primary in Mathematics, Mechanical Engineering, or Electrical Engineering—Secondary.
134. Indexing of Civil Engineering Periodical Literature—Secondary.

DAIRY HUSBANDRY

1. MILK.—The character and composition of normal milk; standardizing milk and cream; proper precautions to prevent contamination; the care and uses of milk; practice with the Babcock test and the lactometer, supplemented by lectures and reference readings, and by laboratory experiments upon contamination of milk. *I.; daily; 1, 2; (5).* Mr. FRASER and Mr. ERF.

2. DAIRY CATTLE.—The cow as a factor in the economic production of milk, butter and cheese; difference in the efficiency of individual animals; establishment of the dairy herd by selection and grading with pure bred sires; the principal characteristics of the dairy cow, with extensive practice in judging; the various breeds adapted to dairy purposes, their history and characteristics, with practice in judging by both dairy and breed standards. *II.; first half; daily; 1, 2; (2½).* Mr. FRASER.

3. DAIRY FARM MANAGEMENT.—Soiling and pasturing dairy cows; crops adapted to the dairy farm, and best methods of converting these into milk; the place and value of the silo on the dairy farm and the best methods of handling and feeding ensilage; a study

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of the best and most economical systems of feeding, together with the care and raising of calves; housing and general care of the herd; arrangement, ventilation, and care of dairy barn. *II.; second half; daily; 1; (2½).* Mr. FRASER.

4. CREAM SEPARATION.—A critical study of different systems of cream separation as to rapidity and efficiency, and the comparison of different machines, especially centrifugal separators; designed to be taken in conjunction with course 5. *II.; three days per week; arrange time; (2½).* Mr. ERF.

5. BUTTER MAKING.—Ripening the cream; churning, working packing, and scoring of butter; designed to be taken in conjunction with course 4. *II.; three days per week; arrange time; (2½).* Mr. ERF.

6. CHEESE MAKING.—Practice in making, curing, and judging cheddar and fancy cheese. *I.; 5 hours, 3 days per week; (5).* Mr. ERF.

7. FACTORY MANAGEMENT.—Coöperative and company creameries and cheese factories; planning, construction, equipment, and operation of plants, including care of engines and boilers. *I.; second half; 3; (2½).* Mr. ERF.

8. CITY MILK SUPPLY.—Sources of milk, together with methods of shipping, handling, and distributing, and of securing a healthful product for large cities. *II.; first half; daily; 8; (2½).* Mr. FRASER.

9. COMPARATIVE DAIRYING.—A study of the dairy systems and practice of different countries, including the care and management of dairy cattle. The principal dairy products of the different countries and the methods of handling and sale, particularly the preparation of milk for direct consumption. The more important conditions, historical and present, and local and inherited influences affecting dairy practices. Recitations, reference readings, and illustrated lectures. *II.; second half; daily; 8; (2½).* Mr. FRASER.

Required: 10 hours' credit in Dairy Husbandry.

10. JUDGING DAIRY PRODUCTS.—A study of the composition and variations of milk; detection of adulterations by means of the Babcock test and lactometer; standardizing milk and cream; methods of detection of impure and unwholesome milk; where and to what extent milk becomes contaminated and methods of prevention; scoring of butter and cheese. *II.; second half; daily; 3; (2½).* Mr. FRASER and Mr. ERF.

11. DAIRY BACTERIOLOGY.—A careful study of the distribution of bacteria as determined by a bacteriological analysis of air in the

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open field, dairy rooms, and dairy barns under different conditions, showing where and to what extent milk may become contaminated through the air and from the cow during the process of milking and subsequently; also how this contamination may be largely avoided by proper methods. The effect of bacteria on milk and rapidity with which it becomes sour after being produced under different degrees of cleanliness and held at different temperatures. The part that bacteria play in the ripening of cream and making of butter and in the manufacture and ripening of cheese. *II.; daily; 6, 7; (5).* Mr. FRASER.

Required: Botany 5.

12 INVESTIGATION AND THESIS.—Subject arranged with instructor. *(5 to 10).* Mr. FRASER and Mr. ERF.

DRAWING, GENERAL ENGINEERING

1a. LETTERING.—Plain and ornamental alphabets; free-hand and mechanical lettering; titles and title pages. *Reinhardt's Lettering. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Assistant Professor PHILLIPS, Mr. KABLE, and Mr. COFFEEN.

1b. ELEMENTS OF DRAFTING.—Geometrical constructions; orthographic, isometric, and cabinet projections. *Tracy's Mechanical Drawing. I.; alternate days; 1, 2, 3 or 6, 7, 8; (3).* Assistant Professor PHILLIPS, Mr. KABLE, and Mr. COFFEEN.

Required: Drawing, General Engineering 1a.

1c. SKETCHING AND WORKING DRAWINGS. Architectural sketch plans and details; bridge details; machines, machine parts, and mechanisms; working drawings; drawings finished in color and right line shading. Lectures on drafting instruments, materials; computing instruments; office methods, and reproduction processes. *Lectures and notes. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Assistant Professor PHILLIPS, Mr. KABLE, and Mr. COFFEEN.

Required: Drawing, General Engineering 1a, 1b.

2. DESCRIPTIVE GEOMETRY.—Problems relating to the point, line, and plane. The generation and classification of lines and surfaces; planes tangent to surfaces of single and double curvature; intersections, developments, and revolutions. *Church's Descriptive Geometry. II.; alternate days; 1, 2, 3 or 6, 7, 8; (5).* Assistant Professor PHILLIPS, Mr. KABLE, and Mr. COFFEEN.

Required: Drawing, General Engineering, 1a, 1b, 1c.

3. ADVANCED DESCRIPTIVE GEOMETRY.—For students making a specialty of mathematics. Curved lines of the higher orders; higher single curved, warped, and double curved surfaces.

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Church's Descriptive Geometry, with references to *Warren's General Problems from the Orthographic Projections of Descriptive Geometry. II.; arrange hours.* Assistant Professor PHILLIPS.

Required: Drawing, General Engineering 2.

ECONOMICS

1. INTRODUCTORY COURSE.—This is a beginners' course, consisting of two parts:

a. PRINCIPLES OF ECONOMICS.—This course is introductory to the more advanced courses. Attention is confined to the underlying principles of the science. *I.; M., W., F.; section A, 5; section B, hours to be arranged; (3).* Assistant Professor HAMMOND.

b. ENGLISH ECONOMIC HISTORY.—This course, which begins with the Norman Conquest, traces the economic development of a great commercial and industrial nation to the present time. Special attention is directed to the evolution of modern industrial institutions. The course should accompany course *a* and is required of all students in the political science group. *I.; Tu., Th.; 5; (2).* Assistant Professor HAMMOND.

Required: At least 30 hours of University work.

2. PRINCIPLES OF ECONOMICS.—This is a course in general economics offered primarily to junior and senior students of high standing in the colleges of agriculture, engineering, science, and law. Emphasis is laid on the practical side of economic questions. *II.; M., W.; 7; (2).* Professor KINLEY.

Required: Two years of University work.

3. MONEY AND BANKING.—This course may be taken either for two or for three hours' credit. The two hours' portion is devoted to an elementary study of the history and theory of money and banking, with special reference to the United States. The third hour is devoted to the consideration of special topics of a more difficult character in the theory of prices, the "money market" and the foreign exchanges, government paper money, etc. The third hour may not be taken alone. *II.; M., W., F.; 5; (2 or 3).* Professor KINLEY.

Required: Economics 1 or 2.

4. FINANCIAL HISTORY OF THE UNITED STATES.—This course deals with the growth and management of the national debt, national taxation and monetary policy. A brief outline of the main points in this history, from the adoption of the constitution, is first given. Attention is then directed to a detailed study of particular periods. *I., II.; Tu., Th.; 5; (2).* Professor KINLEY.

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Required: Economics 1 or 2. For 1901-1902 this course will be replaced with course 22.

5. PUBLIC FINANCE.—This course consists of a critical comparative study of financial theories and methods. Special attention is directed to American conditions. Public expenditure and its relation to the various sources of revenue; taxation, its theory, incidence, and methods; public debts, financial administration, and budgetary legislation, are among the subjects discussed. *II.; M., W., F.; 8; (3).* Assistant Professor HAMMOND.

Required: Economics 1 or 2.

7. INTERNATIONAL TRADE.—This course discusses the principles underlying international trade, and treats briefly the various protection theories and the history of European and American tariffs. Lectures, assigned readings and discussions. *II.; Tu., Th.; (2).* Assistant Professor HAMMOND.

Required: Economics 1 or 2. (Not given in 1901-1902.)

8. THE TRANSPORTATION PROBLEM.—This course deals with the problems of transportation, especially by railways, in their economic and social aspects. A comparative study is made of the development, management, and regulation of railways in Europe and the United States. Special attention is given to the problem of rate-making. Lectures, reports, and discussions. *II.; M., W.; 7; (2).* Assistant Professor HAMMOND.

Required: Economics 1 or 2.

9. AGRICULTURAL PROBLEMS. This course includes a discussion of the economic principles underlying the science of agriculture, a short history of the development of agriculture in this country, and a study of the problems and tendencies of American farming. Lectures and quizzes. *I.; W., F.; 2; (2).* Assistant Professor HAMMOND.

Required: Economics 1 or 2. (Not given in 1901-1902.)

11. STATISTICS.—This is a short course recommended to all who intend to take the advanced courses in economics. It is of a practical character, and is intended to furnish a knowledge of the statistical method, its limitations and abuses, and to enable the student to use intelligently government reports, statistical publications, trade papers, etc. Lectures, reports, and discussions. *II.; Tu., Th.; 3; (2).* Assistant Professor HAMMOND.

Required: Economics 1a or 2.

12. THE LABOR PROBLEM.—This course is a study of the labor movement and its social significance. The condition of working men, their legal and economic relations to their employers, wages,

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strikes, arbitration, labor organizations, and similar topics are studied, and serve to show the general character of the course. Readings, lectures, and quizzes. *I.; M., W., F.; 5; (3).* Professor KINLEY.

Required: Economics 1 or 2.

14. THE DISTRIBUTION OF WEALTH.—This course deals with the problem of distribution both in theory and practice. The facts of distribution of wealth and of income are first discussed, and attention is then turned to a comparison of theories of wages, interest and profits. An attempt is made to show the relation of the existing distributive process to social prosperity and progress. *I., II.; Tu., Th.; 7; (2).* Professor KINLEY.

Required: Economics 1a and 1b, or 2 and 1b. The course is open to students of law who have had "Real Property" and "Contracts."

15. PROBLEMS OF PAUPERISM AND CRIME.—This course begins with the history of poor relief in Europe and the United States. As full a discussion of the various methods of reform and prevention is given as the time will permit. *I.; Tu., Th.; 2; (2).* Assistant Professor HAMMOND.

Required: Two years of University work.

17. SOCIOLOGY.—This course comprises an elementary presentation of social principles and phenomena, and a brief discussion of some of the recent theories advanced to explain the growth and structure of society. *II.; Tu., Th.; 2; (2).* Assistant Professor HAMMOND.

18. THE MONOPOLY PROBLEM.—This course is a more detailed study of a portion of the field of course 14. It discusses the economic aspects of monopoly, the limits of competition, combinations and "trusts," and the relation of monopoly to the public welfare. *I.; M., W., F.; 5; (3).* Professor KINLEY.

Required: Economics 1 or 2. (Not given in 1901-1902.)

19. ECONOMIC SEMINARY.—Advanced students will be formed into a seminary for investigation and for the study of current economic literature. Students who write their theses in economics must do so in connection with the seminary work. *I., II.; arrange time; (4 for the year).* Professor KINLEY and Assistant Professor HAMMOND.

22. THE ECONOMIC HISTORY OF THE UNITED STATES.—This course is devoted to the study of the industrial and commercial development of our country. It is not primarily statistical, but rather an inquiry into the trend of our development and into the

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physical economic, and political forces which have directed and controlled it. The physical conditions under which our people have worked, the movement and character of our population, the interaction of our political and our economic life, our position in the world's industry and commerce, the problem of territorial expansion in its relation to our industrial and commercial growth, are some of the topics to be discussed. In the second semester attention will be given also to the history of some specific great industries, such as the iron and steel industry, cotton manufacture, the shipping question, etc. The course, if taken at all, must be taken through the year. *I., II.; Tu., Th.; 5; (2).* Professor KINLEY.

Required: Economics 1a or 2, antecedently or concurrently.

COURSES PRIMARILY FOR GRADUATES

(These courses are open to students who have had one full year's work in economics.)

101. THE THEORY OF VALUE.—This is an historical and critical study of theories of value.

102. THE HISTORY OF ECONOMIC THOUGHT.—In this course portions of the works of economic writers since the 16th century are read. Lectures are given tracing the course of economic thought in its relation to the prevalent philosophy.

103. TAXATION.—A detailed study of state and local taxation in the United States.

EDUCATION

1. PRINCIPLES OF EDUCATION.—The basis for a scientific theory of education critically considered from the standpoint of the individual in his relation to the mass. The developing powers of the child are here studied in their bearing upon social efficiency. The more general problems of genetic psychology are considered, as well as those essential to the theory and art of teaching. The problems of school education. The making of a course of study. Interrelation of school studies. Method in teaching. The recitation. Examinations. Grading and promotion. The various branches, considered as school subjects. Lectures, essays, and recitations. *I.; daily; 2; (5).* Professor DEXTER.

Required: Two years of University work.

2. HISTORY OF EDUCATION.—The development of educational theory and practice in their relation to the history of civilization. The educational problems of the earliest culture nations. The old and Latin-Greek education. Ideals and methods at Rome. The early

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Christian schools. Significance of scholasticism. The growth of the universities. The reformation and its results. The lives and influence of Luther, Erasmus, Milton, Locke, Comenius, Sturm, Rosseau, Pestalozzi, Froebel, Herbart, Spencer, and Horace Mann. *II.; daily; 2; (5).* Professor DEXTER.

Required: Two years of University work.

3. GENERAL METHOD.—Application of the principles of education to the art of teaching; an examination of De Garmo's "Essentials of Method" and McMurry's "Method of the Recitation," with related topics. *I.; M., W., F.; 3; (3).* Assistant Professor BROOKS.

Required: Education 1, and two years of University work.

4. CONTEMPORARY EDUCATIONAL CONDITIONS AND MOVEMENTS IN THE UNITED STATES.—In this course are studied critically the educational tendencies of to-day. Besides the broader meaning of the whole movement, the school systems of our larger cities and towns are carefully studied. *I.; Tu., Th.; 4; (2).* Professor DEXTER.

Required: Education 1 or 2.

5. A COMPARATIVE STUDY OF THE SECONDARY SCHOOLS OF FRANCE, GERMANY, ENGLAND, AND AMERICA.—In this course are considered the French Lycées, the German Gymnasia, the English Board, Public, and Church Schools, and the American Academies and High Schools. Their resemblances and differences are carefully noted as well as the conditions which have led up to each. *II.; Tu., Th.; 4; (2).* Professor DEXTER.

Required: Education 1 or 2.

6. HIGH SCHOOL ORGANIZATION AND MANAGEMENT.—A discussion of the essential elements of a good high school together with a consideration of the conditions existing in Illinois as determined by the work of high school visitation; proposed solutions of the many problems of secondary education; desired lines of progress; building up of an accredited high school; equipment; program making; courses of study; electives; discipline. *I.; M., W., F.; 7; (3).* Assistant Professor BROOKS.

Required: Education 1 and three years of University work.

7. SPECIAL METHODS IN SCIENCE AND MATHEMATICS.—Position of science in the curriculum; discussion of general methods in science; special methods with reference to botany, zoölogy, physics, chemistry, and other sciences, in so far as time will allow; laboratory equipment; purchasing of apparatus; selection and use of material; use of laboratory manuals; text-books; discussion and illustration of

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methods in algebra and geometry. *I.; Tu., Th.; 3; (2).* Assistant Professor BROOKS.

Required: Education 1 and three years of University work.

8. SPECIAL METHODS IN LANGUAGE AND HISTORY.—The application of the general principles of method to the teaching of language and history; special methods in English composition and rhetoric and the English classics required for admission to the University; methods in language teaching, especially Latin and German; content and method in history teaching. *I.; Tu., Th.; 7; (2).* Assistant Professor BROOKS.

Required: Education 1 and three years of University work.

9. PSYCHOLOGY APPLIED TO THE ART OF TEACHING.—A brief course in genetic psychology, together with a critical study of the mental processes of sense perception, the formation of concepts, attention, suggestion and imitation in their relation to the teaching process. *II.; M., W.; 4; (2).* Professor DEXTER

Required: Two years of University work.

10. SEMINAR IN EDUCATION.—The subject for 1901-1902 is *School Supervision.* The problems of the modern city superintendent from both the educational and business standpoints will be considered. Special attention is given to the problems of school architecture and sanitation. Discussions, reports, and lectures by those actively engaged in the work of superintendency. *I., II.; arrange time; (1).* Professor DEXTER and Assistant Professor BROOKS.

COURSES FOR GRADUATES

In these there is sufficient elasticity to meet the wants of individual students. Advanced work is offered in the history and in the philosophy of education, in which original sources are consulted and special periods critically studied. Experimental and statistical problems in education and child study are also directed. Candidates for advanced degrees are expected to present theses representing original work of merit, ready for publication.

ELECTRICAL ENGINEERING

1. ELECTRICAL ENGINEERING.—Lectures accompanied by laboratory practice (Electrical Engineering 21); for students in other courses of engineering and in architecture. Principles of electrical machinery, selection, installation, operation and testing, distribution and applications of electric power. *II.; Lecture, Tu., Th.; 2; Laboratory, arrange one period; (3).* Professor ALDRICH.

Required: Physics 1, 3; Mathematics 9.

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2. DYNAMO-ELECTRIC MACHINERY.—Lectures on the principles of construction, operation, and characteristics of dynamo-electric machinery, with special reference to direct current types. *I., last six weeks; II., first nine weks; M., W., F.; 1; (2½).* Assistant Professor BROWNE.

Required: Electrical Engineering 3; Physics 4.

3. ELECTRICITY AND MAGNETISM.—A course of lectures and recitations on the elements of the mathematical theory of electricity and magnetism. Special attention is given to establishing and illustrating by problems the laws and principles of fundamental importance to electrical engineers. *I., first twelve weeks; M., W., F.; 1; (2).* Associate Professor ESTY.

Required: Physics 1, 3; Mathematics 9.

4. TELEGRAPHY AND TELEPHONY.—Lectures and recitations. Methods of telegraphy,—land and submarine,—the theory of the telephone, and telephone engineering. *II., second nine weeks; M., W., F.; 1; (1½).* Associate Professor ESTY.

Required: Physics 4; Electrical Engineering 3.

5. ALTERNATING CURRENTS AND ALTERNATING CURRENT TRANSFORMER.—Lectures and recitations. A mathematical and graphical treatment of the principles of periodic currents, with the theory of the transformer and applications to practice. *I.; Tu., Th., F.; 1, 4; (3).* Associate Professor ESTY.

Required: Physics 4; Electrical Engineering 3.

6. ALTERNATING CURRENT MACHINERY.—Lectures on the principles of construction, operation and characteristics of single-phase and polyphase alternating current machinery and rotary converters. *I.; M., W., F.; 2, 3; (3).* Assistant Professor BROWNE.

Required: Electrical Engineering 2 and 5.

7. ELECTRICAL DISTRIBUTION.—Lectures and practice. Methods and economics of distribution of electric energy for light and power, by direct and alternating currents; insurance rules and regulations; testing distributing circuits. *I., first nine weeks; M., F.; 2; (1).* Professor ALDRICH.

Required: Electrical Engineering 2 and 3.

8. ELECTRIC POWER TRANSMISSION.—Lectures. The long distance transmission of power by electricity, from generating stations operated by steam and water power, for utilization in lighting, traction, mining, and manufacturing work; economics of project; construction, maintenance and protection of lines; comparison with other systems. *I.; second nine weeks; M., F.; 2; (1).* Professor ALDRICH.

Required: Electrical Engineering 5 and 7.

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9. ELECTRIC LIGHTING.—Lectures and practice. Manufacture, care, and use of arc and incandescent lamps; economics of installation, and operation of electric lighting systems by central and by substation supply; commercial photometry. *I.; first nine weeks; Tu., Th.; 2; (1).* Professor ALDRICH.

Required: Electrical Engineering 7 and 26.

10. ELECTRIC TRACTION.—Lectures and practice. Principles and economics of construction, installation, electrical distribution, management, and testing of electric traction system; applications to surface and elevated electric roads and to mine haulage. *I.; second nine weeks; Tu., Th.; 2; (1).* Professor ALDRICH.

Required: Electrical Engineering 7.

11. ELECTRIC LIGHT AND POWER PLANTS.—Lectures and practice. Principles and economics of location of site; selection, arrangement, and subdivision of generating units; installation, management, and testing of central and sub-stations for electric light, traction, mining, and manufacturing work. *II.; M., F.; 2; (2).* Professor ALDRICH.

Required: Electric Engineering 6.

12. ELECTRO-METALLURGY.—Lectures on the commercial application of electrolysis; refining metals; treatment of sewage; the electric furnace; electrotyping; electro-plating. *II.; Tu., Th.; 4; (2).* Assistant Professor BROWNE.

Required: Chemistry 1; Physics 4.

13. SEMINARY.—A weekly meeting is held in the department reading room for discussion of topics from the current journals of theoretical and applied electricity. Papers on any original work doing in the department are read and discussed. A card catalog of references to the leading electrical journals is maintained by the coöperation of members of the seminary with the department. *I.; Tu.; 7, 8; II.; Tu.; 7, 8; (1).* Associate Professor ESTY.

Required: Physics 4; Electrical Engineering 2, 3, 22, 31.

14. ALTERNATING CURRENTS.—Lectures on the theory and applications of alternating electric currents, and alternating current phenomena. Elective for undergraduates. *II.; arrange time; (2).* Associate Professor ESTY.

Required: Electrical Engineering 5.

21. ELECTRICAL ENGINEERING LABORATORY.—Arranged for students in other courses of engineering and in architecture. Care, operation, inspection, and testing electrical machinery, and distributing circuits. *II.; section A, M.; 6, 7, 8; section B, F.; 6, 7, 8;*

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section C, Th.; 6, 7, 8; (1). Professor ALDRICH and Assistant Professor BROWNE.

Required: Electrical Enginering 1 or 2.

22. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of direct current dynamos, motors, and accessory apparatus; theory and care of instruments; reduction of observations; individual and comparative tests; complete tests such as are made in the testing laboratories of representative manufacturing establishments. *II.; section A, W.; 6, 7, 8; B, Tu.; 1, 2, 3; C, Th.; 1, 2, 3.* Professor ALDRICH and Assistant Professor BROWNE.

Required: Electrical Engineering 2.

23. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of alternating current instruments, dynamos, motors, and transformers; regulation, efficiency, temperature, and insulation tests. *I.; Tu.; II., M.; 3, 4, 5; (1).* Professor ALDRICH and Assistant Professor BROWNE.

Required: Electrical Engineering 22 and 6.

24. ELECTRICAL ENGINEERING LABORATORY.—Advanced direct and alternating current testing work; special problems for investigation; plant, line, and motor service testing. *II.; W.; 3, 4, 5; (1).* Professor ALDRICH and Assistant Professor BROWNE.

Required: Electrical Engineering 23.

25. POLYPHASE TESTING.—Advanced course for seniors in Group I., Electrical Engineering. A critical study and investigation of polyphase machinery and systems; individual and aggregate tests. Elective. *I.; Th.; 3, 4, 5; (1).* Professor ALDRICH and Assistant Professor BROWNE.

Required: Electrical Engineering 23.

26. PHOTOMETRY.—Laboratory work with descriptive lectures. Principles of photometry with candle power, life, and efficiency tests of incandescent and arc lamps. *I.; M.; section A, 4, 5; section B, 8, 9; (1).* Assistant Professor BROWNE.

Required: Electrical Engineering 9.

31. ELECTRICAL DESIGN.—Design and drafting, with supplementary lectures on the design, calculation, and construction of electromagnetic mechanisms, and dynamo-electric machines. This course is introductory to the fuller courses of the following year. *II.; M.; 6, 7, 8; (1).* Associate Professor ESTY.

Required: Electrical Engineering 2, 3; Physics 4.

32. ELECTRICAL DESIGN.—Design, drafting, lectures. A continuation of the preceding. Includes the design and construction of multi-polar generators and motors, alternating current generators,

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motors, and transformers. *I.; W.; 3, 4, 5; II.; Th.; 1, 2, 3; (1).* Associate Professor ESTY.

Required: Electrical Engineering 2, 6, 22, 31.

33. ELECTRICAL DESIGN.—Design and drafting. Supplements Electrical Engineering 11, and takes up the *ensemble* design of an electric light or power installation, including plans, specifications, and estimates. *II.; F.; 3, 4, 5; (1).* Associate Professor ESTY.

Required: Electrical Engineering 6, 8, 9, 10, 11.

COURSES FOR GRADUATES

Primary

101. Theory of Alternating Currents.
102. Dynamo-Electric Machinery.
103. Alternating Current Machinery.
104. Electrical Transmission of Power.
105. Electric Light and Power Plants.
106. Electro-Metallurgy.
107. Polyphase Testing.
108. Electrical Engineering Research.
109. Electrical Design.

Secondary

111. Theory of Equations.
112. Theory of Determinants.
113. Least Squares.
114. Differential Equations.
115. Calculus of Variations.
116. Spherical Harmonics.
117. Potential Function.
118. Advanced Physical Measurements.
119 Mathematical Physics.
120. Mathematical Theory of Electricity and Magnetism.
121. Physical Chemistry.
122. Metallurgical Chemistry.
123. Electro-Chemistry.

ENGLISH LANGUAGE AND LITERATURE

1. GENERAL SURVEY OF ENGLISH LITERATURE.—*I.; daily; section A, 2; section B, 4; section C, 6; II.; 4; (5).* Miss CARSON.

2. PROSE WRITERS OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—*II.; daily; section A, 2; section B, 6; (5).* Miss CARSON.

Required: English 1.

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3. NINETEENTH CENTURY POETRY.—*I., II.; M., W., F.; 3; (3).* Associate Professor JAYNE.

Required: English 1.

4. PROSE WRITERS OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Professor DODGE.

Required: English 1 and 2. [Not given in 1901-1902.]

4a. NON-DRAMATIC POETRY OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Professor DODGE.

Required: English 1 and 2. [The second semester may be taken without the first.]

5. SHAKSPERE AND HISTORY OF THE DRAMA.—Primarily for graduates. *I., II.; M., W., F.; 2; (3).* Professor DODGE.

Required: English 1, 2 and either 3 or 4. [The second semester may be taken without the first.]

6. HISTORY OF ENGLISH CRITICISM.—Primarily for graduates. *I., II.; Tu., Th.; 4; (2).* Professor DODGE.

Required: English 1, 2 and either 3 or 4.

7. SEMINARY: ENGLISH FICTION.—Open only to senior and graduate students. *I., II.; Tu.; arrange time; (1).* Associate Professor JAYNE. [Not given in 1901-1902.]

8. OLD ENGLISH (ANGLO-SAXON) GRAMMAR AND PROSE.—*I., II.; M., W., F.; arrange time; (3).* Professor DODGE.

9. EARLY ENGLISH.—*I., II.; Tu., Th.; arrange time; (2).* Professor DODGE.

10. OLD ENGLISH POETRY.—*I., II.; M., W., F.; arrange time; (3).* Professor DODGE. [Not given in 1901-1902.]

Required: English 8 and 9.

11. FOURTEENTH AND FIFTEENTH CENTURY LITERATURE.—*I., II.; Tu., Th.; arrange time; (2).* Professor DODGE.

Required: English 8 and 9. [Not given in 1901-1902.]

12. HISTORY OF THE ENGLISH LANGUAGE.—*I., II.; W.; arrange time; (2).* Professor DODGE.

Required: English 8 and 9. [Not given in 1901-1902.]

13. ICELANDIC.—*I., II.; daily; arrange time; (5).* Professor DODGE.

Required: English 8 and 9, or German 1. [Not given in 1901-1902.]

14. OLD ENGLISH LEGAL CODES.—Special course for students of politics, economics, and history. As an introduction to the course, Old English Grammar is studied, so far as is necessary for a proper understanding of early phraseology. Primarily for graduates, but

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open to undergraduates having sufficient preparation. *I., II.; M., W.; arrange time; (2).* Professor DODGE.

Required: One year of history, economics, sociology or English Literature.

15. SEMINARY: METHODS OF ENGLISH TEACHING.—Open to senior and graduate students. *I., II; W.; arrange time; (1).* Professor DODGE.

[The second semester may be taken without the first.]

16. HISTORY OF AMERICAN LITERATURE.—*I.; M., W., F.; 4; (3).* Associate Professor JAYNE.

17. HISTORY OF THE ENGLISH LANGUAGE.—Elementary course. *I., II.; Tu., Th.; 2; (2).* Professor DODGE.

[The second semester may be taken without the first.]

18. THE TECHNIQUE OF THE ENGLISH NOVEL.—*I.; Tu., Th.; arrange time; (2).* Assistant Professor JAYNE.

ENTOMOLOGY.

1. ELEMENTARY ENTOMOLOGY.—This is a field, laboratory, and lecture course in general entomology open to all matriculated students, pursued without reference to economic ends, and complete in itself, but leading to the courses in general entomology (Entomology 2 and 3). The field and laboratory work is strictly entomological, but the lecture course is in great measure a course in general biology, with entomological illustrations. The subject is taught in part with a view to giving the prospective teacher of zoölogy command of entomological material for illustrative purposes. *II.; daily; 6, 7; (5).* Dr. FOLSOM.

2. GENERAL ENTOMOLOGY.—This is the first of two semester courses, which may be taken independently or succeed each other in either order. Taken together, they form a year's connected major work in entomology, covering substantially the whole field. The present course is devoted mainly to field entomology in the fall and to the morphological and physiological aspects of the subject later in the semester. Beginning with the collection and preservation of specimens and the making of field observations, it is continued by laboratory studies of typical insects, made with special reference to the recognition of adaptive structures, and experimental work intended to determine their exact utilities. Species of economic insects are drawn upon by preference for laboratory study and illustrative purposes. *I.; daily; 3, 4; (5).* Dr. FOLSOM.

Required: Zoölogy 1, Entomology 1, or Entomology 4.

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3. General Entomology.—To be taken either with or without the preceding course. The classification and determination of insects, the study of life histories in the insectary and by field observation, and the collection of information with respect to the oecological relations of insects are the principal subjects of this course. It is designed especially to make the student acquainted with a considerable number of insect species and other groups (preference being given to those of special economic or scientific importance), and also to serve as an introduction to a comprehensive and intelligent observation of the insect in the field and of its habits and transformations in the insectary. *II.; daily; 3, 4; (5).* Dr. Folsom.

Required: Zoölogy 1 or Entomology 1.

4. Economic Entomology.—By means of laboratory studies and lectures and field and insectary observations, students will be made familiar with the commonest and most important injurious insects, and with means of preventing or arresting their injuries. *I.; daily; 6, 7; (5).* Professor Forbes and Dr. Folsom.

5. Advanced Entomology.—Under this head students desiring advanced work in entomology, especially as a preparation for thesis work in this subject, will be individually provided for on consultation with the entomological instructors. The course may be made to cover one or two semesters and to earn a three-hour or a five-hour credit in each. At least a three-hour course for one semester will be required as a preparation for entomological thesis work. *I., II.; arrange time; (3 to 5 each semester).* Professor Forbes or Dr. Folsom.

Required: Entomology 2, 3, or 4.

6. Thesis Investigation.—Students specializing in entomology will select a thesis subject, preferably during the junior year. They will be expected to give three hours a day to investigation upon it under the supervision of an instructor during their senior year. *I., II.; daily; arrange time; (5).* Professor Forbes and Dr. Folsom.

Required: At least a three-hour course in Entomology 5.

FRENCH

1. Elementary Course.—This course embraces grammatical study, pronunciation, exercises in composition, and conversation. Reading of representative works of modern authors, such as Daudet, Labiche, Jules Verne, and others. *I., II; daily; three sections; section A, 1; section B, 3; section C, 4; (5).* Assistant Professor Piatt, Miss Jones, and Miss McWilliams.

2. Nineteenth Century.—(1) The class will read works of

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Mérimée, George Sand, Balzac, Sandeau, Bourget, Hugo, and others. (2) Outlines of French literature. (3) Assigned readings and reports thereon. *I., II.; daily; three sections; 1, 2, 3; (5).* Professor FAIRFIELD. Assistant Professor PIATT, and Miss JONES.

Required: French 1 or 5.

3a. SEVENTEENTH CENTURY.—(1) Readings from Molière, Corneille, Racine, Lafontaine, Boileau, de Sévigné, and others. (2) Study of French literature and civilization of the century. (3) Advanced composition. (4) Assigned reading. *I., II.; M., W., F.; 2; (3).* Professor FAIRFIELD.

Required: French 2.

3b. COMPOSITION AND CONVERSATION.—This course may be taken alone or more profitably in addition to 3a. *I., II.; Tu., Th.; (2).* Professor FAIRFIELD.

4. EIGHTEENTH CENTURY.—(1) The course will consist of lectures in French, themes, and collateral reading. Reading of selected works of Voltaire, Montesquieu, Rousseau, Chénier, and Beaumarchais. (2) Assigned readings. (3) Themes in French upon subjects connected with the course. *I., II.; M., W., F.; (3); arrange time.* Professor FAIRFIELD.

Required: French 3.

5. SCIENTIFIC AND TECHNICAL FRENCH.—Similar to course 1 for first semester. In the second semester the class takes up the study of scientific and technical French. For this purpose a weekly scientific periodical, *La Nature,* published at Paris, is taken by each member, and made the basis of the class-room work. Particular attention is given to acquiring a technical vocabulary and to rapid reading. *I., II.; daily; two sections; 2, 7; (5).* Assistant Professor PIATT.

COURSE FOR GRADUATES

101. OLD FRENCH READINGS.—Clédat, Les Auteurs Français du Moyen Age; Suchier, Aucassin et Nicolete; Gautier, La Chanson de Roland. Translation and comparison with the modern idiom. Study of the laws of phonetic changes. Lectures upon Old French philology. Professor FAIRFIELD.

GEOLOGY

1. GEOLOGY, MAJOR COURSE.—This course begins in the second semester, following Mineralogy 1, and is continued through the first semester of the succeeding year (Geology 2). Either semester counts as a major study.

(a) Dynamic Geology. The instruction given under this head

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is intended to familiarize the student with the forces now at work upon and within the earth's crust, modeling its reliefs, producing changes in the structure and composition of its rock masses and making deposits of minerals and ores. A series of localities is studied in which great surface changes have recently taken place, with a view to ascertaining the character of the forces producing such changes, and the physical evidence of the action of like forces in the past. The subject is taught by lectures, and is abundantly illustrated by maps, models, charts, and views.

(b) Petrographic. This course is a continuation of Mineralogy 1 (b) (p. 257), and deals with fragmental rocks in substantially the same manner as that does with crystallines. [Continued under Mineralogy 2 (p. 258).]

(c) Historical Geology. The work on this subject is substantially an introduction to the history of geology as a science. Especial stress is laid on the development of the North American continent and the evolution of its geographic features.

(d) Paleontology. The scheme of instruction in this subject places before the student the classification adopted for those organic forms occurring as fossils, together with the succession of the various groups in the strata, with the cause, as far as known, for their appearance and disappearance. The student is required to familiarize himself with selected groups of paleozoic fossils, abundant illustrations of which are placed in his hands. The subject is presented in lectures and demonstrations, each group being considered in connection with its nearest living representative. [Continued under Paleontology 1. p 262]. *II.; daily; 1, 2; (5).* Professor ROLFE and Mr. Fox.

Required: Mineralogy 1.

2. MAJOR COURSE CONTINUED.—Economic Geology. The course is devoted to a study of the uses man may make of geologic materials, the conditions under which these materials occur, and the qualities which render them valuable. The instruction is given by text and readings from the various state and government reports, transactions of societies, and monographs in which these subjects are treated, as well as by demonstrations with materials from the collections of the University. *I.; daily; 6, 7; (5).* Professor ROLFE and Mr. Fox.

Required: Geology 1 or 3.

NOTE.—In dynamic and historical geology Dana's manual is used as a reference book. Petrography is pursued by means of a laboratory guide adapted from Rosenbusch, Zirkel, Roth, Teall, and others.

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In economic geology the manuals of Kemp and Tarr are used as texts. In paleontology Nicholson, Bernard, and Zittel are used for descriptions of the larger groups, Miller for general distribution, and the various state surveys for species.

3. GENERAL GEOLOGY, MINOR COURSE.—This course includes a selection of such geological facts and theories as should be known to every educated person, with such discussion of them as the time will permit. The subjects treated are fully illustrated. One hour each day is devoted to laboratory work, and this time is about equally divided between the study of minerals, rocks, and fossils.

The instruction is by texts and lectures, using Le Conte's Elements of Geology as the basis for the class-room work, and a specially prepared guide for the laboratory. *II.; daily; 6, 7; (5).* Professor ROLFE and Mr. FOX.

4. INVESTIGATIONS AND THESIS.—For students who select a geological, paleontological, mineralogical, or geographical subject for a thesis, guidance and facilities are offered for individual investigations in the field and laboratory. *I., II.; daily; 3, 4; (5).* Professor ROLFE.

Required: Geology 1, Mineralogy 2, Paleontology 1, or Physiography 1.

GERMAN

1. ELEMENTARY COURSE.—Thomas's Practical German Grammar; Jones's German Reader, or other easy narrative prose, with exercises in composition. *I.; daily; section A, 1; section B, 2; section C, 2; section D, 4; section E, 6; section F, 7; (5).* Professor RHOADES, Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

3. NARRATIVE and DESCRIPTIVE PROSE.—For students in all colleges. Jone's German Reader continued, with other selections of a similar character. Prose Composition and grammatical drill. *II.; daily; section A, 1; section B, 2; section C, 2; section D, 4; section E, 6; section F, 7; (5).* Professor RHOADES, Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

Required: German 1.

4. DESCRIPTIVE and HISTORICAL PROSE.—Selections from standard prose writers of the present century, with grammatical review and drill; also exercises in reading at sight. Prose Composition. *I.; daily; section A, 1; section B, 4; section C, 6; section D, 8; (5).* Professor RHOADES, Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

Required: German 1 and 2, or two years of high school work.

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5. GERMAN CLASSICS.—For students in all colleges. One of Schiller's later dramas and one of Goethe's or Lessing's are translated, with work in prose composition. To the prose composition two hours per week are devoted, and, as the translation work in the two sections is different, students may, in addition to the regular work, elect and receive credit for the translation in the other section, indicating it as 5a. *II.; daily; section A, 4; section B, 8; (5).* Professor RHOADES, Assistant Professor MEYER.

Required: German 4.

6. HISTORICAL and SCIENTIFIC PROSE.—For students of all colleges. Practice in rapid reading is the purpose of this course; during the second half of the semester works of a general scientific character will afford opportunity to become familiar with scientific style. *II.; daily; section A, 1; section B, 6; (5).* Dr. BROOKS, Miss BLAISDELL.

Required: German 4.

7. HEINE and the ROMANTIC WRITERS.—Rapid translation and sight reading. In 1901-1902 selections from various writers of the Romantic School will be read, designated as 7a; in 1902-1903 selections from Heine's prose works and Hatfield's edition of German Lyrics and Ballads will be read, designated as course 7b. Students may elect and receive credit for both options. *I.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 5 or 6, or three years of high school German.

8. LESSING or SCHILLER.—This course is intended to accompany course 7, but may be taken separately. In 1901-1902 Lessing's Nathan der Weise and other selected work will be read and discussed, designated as course 8a; in 1902-1903 Schiller's Wallenstein and other selections will be similarly treated, designated as 8b. Students may elect and receive credit for both options. *I.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 5 or 6, or three years of high school German.

9. GOETHE'S FAUST.—Translation of Part I. and portions of Part II., with discussion of the genesis and import of the work and lectures on the poet's life. *I.; M., W., F.; 7; (3).* Professor RHOADES.

Required: German 7, 8, 12; open only to juniors and seniors or special students by permission.

10. SELECTIONS FROM GOETHE.—In 1901-1902 selections from the lyrics and works of the classical period, designated as 10a; in 1902-1903 selections from the prose works and earlier dramas,

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designated as 10b. The course is intended to supplement 9, but may be taken separately, and students may elect and receive credit for both options. *I.; Tu., Th.; 7; (2).* Dr. BROOKS.

Required: German 7, 8, 12.

11. HISTORY OF GERMAN LITERATURE.—Lectures, recitations, and reports on assigned collateral reading. *II.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 7, 8.

12. RECENT AND CONTEMPORARY WRITERS.—Rapid reading of works by Dahn, Hauptmann, Heyse, Sudermann, Wilbrandt, and others. The same works will not be read in consecutive years, and the course may, therefore, be elected in 1901-1902 as 12a, in 1902-1903 as 12b, and students may elect and receive credit for both options. *II.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 7.

13. TEACHERS' SEMINARY.—Study of methods, text-books, and practical teaching. This course will be required in order to obtain a specific recommendation to teach German. *II.; M., F.; 7; (2).* Professor RHOADES.

Required: German 7, 9, 12, also 11, unless taken in connection with this course.

14. INTRODUCTION TO MIDDLE HIGH GERMAN.—Outlines of grammar; translation of texts into modern German and into English; relation of Middle High to Modern German. Open to juniors and seniors who have had German 12. *I.; M., W., F.; 8; (3).* Dr. BROOKS.

GREEK

1. GRAMMAR AND READER. *I.; daily; 5; (5).* Professor Moss.

2. GRAMMAR AND READER. *II.; daily; 5; (5).* Professor Moss.

Required: Greek 1.

3. XENOPHON.—HELLENICA AND ANABASIS. *I.; daily; 6; (5).* Professor Moss.

Required: Greek 2.

4. ANDOCIDES AND LYSIAS.—*II.; daily; 6; (5).* Professor Moss.

Required: Greek 3.

5. HISTORICAL PROSE.—Herodotus. Greek prose composition once a week. *I.; daily; 4; (5).* Professor Moss.

Required: Entrance credits.

6. HISTORICAL PROSE.—Thucydides. Greek prose composition once a week. *II.; daily; 4; (5).* Professor Moss.

Required: Greek 5.

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7. SELECTIONS FROM PLATO.—*I.; daily; 1; (5).* Professor Moss.
Required: Greek 6.

8. GREEK TRAGEDY.—*II.; daily; 1; (5).* Professor Moss.
Required: Greek 7.

9. HOMER.—The Iliad. *I.; M., W., F.; 2; (3).* Professor Moss.
Required: Greek 8.

10. HOMER.—The Iliad. *II.; M., W., F.; 2; (3).* Professor Moss.
Required: Greek 8.

11. GREEK ORATORY, SELECTED SPECIMENS.—*I.; Tu., Th.; 2; (2).* Professor Moss.
Required: Greek 8.

12. THEOCRITUS.—*II.; Tu., Th.; 2; (2).* Professor Moss.
Required: Greek 8.

NOTE.—Courses 1 to 4, inclusive, were publicly offered in the fall of 1900. They are designed to meet the requirements of students who do not present Greek for entrance, but who wish to gain some knowledge of the language and receive university credit therefor. The announcement of authors is tentative, and may be changed as the progress of classes requires.

HISTORY

[It is recommended that the elementary courses be taken in the following order: History 5, 6, 1, 2. For students who take but one course in History, History 1 is recommended.]

1. MEDIAEVAL AND MODERN EUROPEAN HISTORY.—Elementary introductory course. *I., II.; M., W., F.; section A, 1; section B, 4; section C, 7; (3).* Dr. SCHOOLCRAFT and Mr. ALVORD.

2. HISTORICAL INTRODUCTION TO CONTEMPORARY POLITICS.—The political history of the nineteenth century. The first semester is devoted to the political history of the United States, and the second to that of Europe. The work of either semester may be taken separately. This course, taken with Public Law and Administration 1, constitutes, during the first semester, a course in American history and government; and in the second semester a course in the governments and recent political history of Europe. *I., II.; Tu., Th.; 4; (2).* Professor GREENE.

3. AMERICAN HISTORY.—The origin and growth of the nation from the beginning of English colonization in America to the close of the reconstruction period. The work of either semester may be taken separately. *I., II.; daily; 1; (5).* Professor GREENE.
Required: History 1 or 2; or, for juniors and seniors in the Col-

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leges of Engineering, Science, and Agriculture, any course in economics or public law and administration.

4. ENGLISH CONSTITUTIONAL HISTORY.—In this study of the growth of the English constitution, some attention is also given to the origins of legal institutions. The course is therefore adapted to the needs of students who expect to follow the profession of law. *I., II.; M., W., F.; 3; (3).* Dr. SCHOOLCRAFT.

Required: History 1 or an equivalent.

5. THE HISTORY OF GREECE.—This course and History 6 will be useful to students who expect to teach the classics of ancient history in secondary schools. *I.; Tu., Th., F.; 7; (3).* Mr. ALVORD.

6. THE HISTORY OF ROME.—The aim of this course, which furnishes a suitable introduction to History 1, is to give a general survey of the Roman world before the appearance of the Germans, rather than to trace the economic and political history of the city. *II.; Tu., Th., F.; 7; (3).* Mr. ALVORD.

7. THE REVOLUTIONARY ERA IN EUROPE, 1763-1815.—*I.; M., W., F.; 4; (3).* Dr. SCHOOLCRAFT.

Required: History 1.

8. THE COLONIAL INTERESTS AND COLONIAL POLICIES OF THE EUROPEAN POWERS.—Special attention will be given to the nineteenth century. *II.; M., W.; 4; (3).* Professor GREENE.

Required: History 1.

9. MEDIAEVAL HISTORY.—Advanced course. The Conflict of the Papacy and the Empire. *M., Tu., Th.; 2; (3).*

Required: History 1.

[May be omitted in 1901-1902.]

10. ENGLAND UNDER THE STUART KINGS.—Puritanism and the Church of England. The conflict between king and parliament. *II.; M., W., F.; 2; (3).* Dr. SCHOOLCRAFT.

COURSES FOR GRADUATES

101. AMERICAN HISTORY.—Special studies in the development of the West. *I., II.; M., W.; 8; (3).* Professor GREENE.

102. ENGLISH HISTORY.—Studies in the period of the Puritan Revolution. *I., II.; arrange time; (2).* Dr. SCHOOLCRAFT.

103. SEMINARY IN AMERICAN HISTORY.—Training in historical research. *I., II.; arrange time; (for undergraduate students, 2; for graduates, 2 or more, at the option of the student and the instructor).* Professor GREENE.

Courses 101 to 103 are primarily for graduates, but they may also be taken by seniors of high standing who have previously taken two or more courses in history.

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HORTICULTURE

1. PRINCIPLES OF FRUIT-GROWING.—This course, which is designed for all students in the College of Agriculture, deals with the fundamental principles of fruit culture. It embraces a study of the planting and care of fruit areas. Lectures, recitations, reference readings, and practical exercises. *I.; daily; 1, 2; (5).* Mr. LLOYD.

2. SMALL FRUIT CULTURE.—A study of the strawberry, raspberry, blackberry, dewberry, currant, gooseberry, cranberry, and juneberry; each studied with reference to the following: Botanical matter, history, importance and extent of cultivation, soil, location, propagation, planting, pruning and training, fertilizers, insect enemies and diseases, spraying, varieties, harvesting, marketing, profits. *II.; Tu., Th.; 1; (2).* Mr. LLOYD.

3. VEGETABLE GARDENING.—Kitchen and market gardening and vegetable forcing; embracing a study of all the common vegetables. *II.; M., W., F.; 1; (3).* Mr. LLOYD.

4. PLANT HOUSES.—The construction and management of conservatories and other plant houses. Text-book and laboratory work. *I.; first half; daily; 8; (2½).* Mr. LLOYD.

5. PLANT PROPAGATION.—A study of the methods of securing and perpetuating desirable varieties of plants,—grafting, budding, layering, making cuttings, polination, seedage, etc. Text-book and laboratory work. *I.; second half; daily; 8; (2½).* Mr. LLOYD.

6. NURSERY METHODS.—A study of the various methods of nursery management and their relation to horticultural practices in general. Lectures, reference readings, and laboratory work. *II.; first half; daily; 8; (2½).* Mr. LLOYD.

Required: Horticulture 5.

7. SPRAYING.—The theory and practice of spraying plants, including a study of materials and methods employed in the combating of insects and fungous diseases. Text-books and practical demonstrations. *II.; second half; daily; 8; (2½).* Mr. LLOYD.

Required: Horticulture 1.

8. ORCHARDING.—A comprehensive study of pomaceous fruits: apple, pear, quince; drupaceous or stone fruits: plum, cherry, peach, nectarine, apricot. Each fruit studied with reference to the points enumerated under 2, above. Lectures, text-books, and laboratory work. *I.; daily; 4; (5).* Assistant Professor BLAIR.

Required: Regular admission; Horticulture 1.

9. FORESTRY.—This course embraces a study of forest trees and their natural uses, their distribution, and their artificial production.

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The relations of forest and climate are studied, and the general topics of forestry legislation and economy are discussed. *II.; Tu., Th.; 4; (2).* Professor BURRILL.

Required: Botany 2.

10. LANDSCAPE GARDENING.—Ornamental and landscape gardening, with special reference to the beautifying of home surroundings. Lectures illustrated by means of lantern slides and charts. *II.; M., W., F.; 4; (3).* Assistant Professor BLAIR.

Required: Two years of University work, or special preparation.

11. ECONOMIC BOTANY.—Useful plants and plant products. Lectures and assigned readings. *I.; Tu., Th.; 3; (2).* Professor BURRILL.

Required: Regular admission; Botany 2.

12. EVOLUTION OF CULTIVATED PLANTS.—Comprising a study of organic evolution and the modification of plants by domestication. *I.; M., W., F.; 3; (3).* Assistant Professor BLAIR.

Required: Regular admission; two years of University work

13. VITICULTURE.—A comprehensive study of the grape and its products. *I.; first half; daily; 5; (2½).* Assistant Professor BLAIR.

Required: Horticulture 1 and 8.

14. NUT CULTURE.—The cultivation and management of nut-bearing trees for commercial purposes. *I.; second half; daily; 5; (2½).* Assistant Professor BLAIR.

Required: Regular admission; Horticulture 1 and 8.

15. FLORICULTURE.—The study and management of conservatory and house plants. *II.; daily; 5; (5).* Assistant Professor BLAIR.

Required: Regular admission; Horticulture 4 and 5; Botany 2.

16. GENERAL HORTICULTURE.—For students not registered in the College of Agriculture. A course covering the general principles and processes of fruit-growing, gardening, floriculture, and ornamental planting. Suited to needs of individual students so far as practicable. *I.; daily; 3; (5).* Assistant Professor BLAIR and Mr. LLOYD.

17. COMMERCIAL HORTICULTURE.—A course giving practical training for those students intending to follow horticulture as a business. Work in houses, orchards, and gardens—suited to ability and requirements of each student. *I., II.; arrange hours; (5-20).* Mr. LLOYD.

18. EXPERIMENTAL HORTICULTURE.—A course for those intending to engage in professional horticulture or experiment station work.

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For advanced students. *I.; daily; 1; (5).* Assistant Professor BLAIR.

Required: Regular admission; twenty hours' work in horticulture.

19. SPECIAL INVESTIGATION AND THESIS WORK.—Required of candidates for graduation. *II.; daily; arrange time; (5).* Professor BURRILL and Assistant Professor BLAIR.

HOUSEHOLD SCIENCE

1. PRINCIPLES OF THE SELECTION AND PREPARATION OF FOOD.—In this course the nature and the uses of food are considered; its chemical composition; changes effected by heat, cold or fermentation. Practical application of the principles of selection are given by marketing expeditions. Some of the processes of the manufacture of food are considered as well as the combinations of different kinds. *Knight's Food and Its Functions.* A demonstration lecture, two laboratory periods, and one recitation per week. *II.; M., W., F.; 1, 2; (3).* Miss SIMON.

Required: Entrance credit in Physics; entrance credit in Chemistry, or Chemistry 1.

2. HOME SANITATION.—This course treats of the situation and surroundings of the house; the relation of soil to health; heating, lighting, ventilation; water supply and drainage. Furnishings from a sanitary and artistic standpoint, and some of the principles of home management are considered. Lectures, reference, and field work, and discussions. *Home Sanitation, Richards and Talbot. I.; Tu., Th.; 2; (2).* Professors WHITE and BEVIER.

3. ELEMENTARY HOUSEHOLD DECORATION.—Topics considered: The evolution of the house; homes of primitive peoples; finishing, furnishing and decoration of modern American houses. Lectures reference work, and discussions. *II.; Tu., Th.; 2; (2).* Professor BEVIER.

4. CHEMISTRY OF FOOD AND NUTRITION.—This course deals with the subjects of food and nutrition from the standpoint of sanitary and physiological chemistry. The student is expected to make investigation in the study of yeast fermentation; various household applications of bacteriology; to construct dietaries adapted to different ages, occupations, and conditions. *Richards and Woodman's Air, Water, and Food; Halliburton's Essentials of Chemical Physiology; Government Bulletins.* Two lectures, one recitation, two laboratory periods per week. *I.; M., W.; 3, 4; Tu., Th., F.; 3; (5).* Professor BEVIER.

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Required: Chemistry, 1, 3b, 4; (Chemistry 5a, 20, or 23 must be taken before or simultaneously with the work); Botany 5; at least one semester's work in Biology, Botany, or Zoölogy in the University; Physiology 4.

5. HYGIENE AND DIETETICS.—This course is a continuation of course 1. It treats of the relations of food to health; of the adaptation of the diet to abnormal conditions of the body, and includes the working out of dietaries suited to the needs of the average family. *I.; M., W., F.; 5; (3).* Miss SIMON.

Required: Household Science 1.

ITALIAN

1. GRAMMAR AND READING.—Grandgent's Italian Grammar, reading of modern authors; Dante's Divina Commedia, outlines of Italian literature. *I., II.; M., W., F.; arrange time; (3).* Professor FAIRFIELD.

LATIN

1. CICERO AND PLINY.—De Amicitia and De Senectute; composition based on the text; selections from Pliny's Letters; Roman life in Pliny's time. This course is required of students who offer but nine credits in Latin for admission. *I., II.; daily; 1; (5).* Mr. PALMER.

2. LIVY.—Selections from the XXI. and XXII. books. Latin composition based on the text. The object of this course is to secure facility in composition, translation, and English expression. *I.; daily; 2; (5).* Professor BARTON.

3. TERENCE.—Phormio and Roman Life in Prose and Verse. Outlines of Roman Literature. *II.; daily; 2; (5).* Professor BARTON.

Required: Latin 2, 3.

4. HORACE AND CATULLUS.—The odes of Horace and the lyrics of Catullus. Their art as a contribution to the world's best literature. *I.; Tu., W., Th., F.; 7.* Professor BARTON. [Not given in 1901-1902.]

Required: Latin 2, 3.

5. HORACE AND TACITUS.—The Satires and Epistles of Horace. Especial reference to the private life of the Romans in the time of Augustus. The Germania of Tacitus, in connection with Cæsar's account of the customs of the Germans. This course will be given in alternate years with course 4. *I.; Tu., W., Th., F.; 7; (5).* Professor BARTON.

Required: Latin 2, 3.

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6. TACITUS AND PLAUTUS.—The Agricola of Tacitus as an example of finished biography; a study of its style. Plautus, three plays. Comedy as an expression of social life. *II.; Tu., W., Th., F.; 7; (5).* Professor BARTON.

Required: Latin 2, 3.

7. THE ROMAN HISTORIANS.—Readings from Cæsar, Sallust, Livy, Tacitus, and Suetonius. The course is devoted to a study of the differences of style and method of treating historical themes. *I.; M., Tu., W., Th.; 3; (5).* Professor BARTON. [Not given in 1901-1902.]

Required: Latin 2, 3.

8. ROMAN SATIRE AND EPIGRAM.—Selections from Juvenal and Martial. Society in the first century. *I.; M., Tu., W., Th.; 3; (5).* Professor BARTON.

Required: Latin 2, 3.

9. TEACHERS' COURSE.—A study of the aims and methods of preparatory Latin instruction and the conditions existing in the high schools of the state. Students will for a portion of the time do the work of a preparatory class and at intervals take charge of the recitation. *II.; M., Tu., Th., F.; 3; (5).* Professor BARTON.

10. ADVANCED LATIN PROSE COMPOSITION.—Intended especially for students fitting themselves for teaching. *I.; M., W., F.; 8; (3).* Professor BARTON.

LAW

1. CONTRACTS.—Text-book, *Keener's Cases on Contracts. I.; M., W., Th.; 3; (3). II.; M., W., F.; 3; (3).* Professor PICKETT.

2. TORTS.—Text-book, *Ames and Smith's Cases on Torts. I.; Tu., Th., F.; 4; (3). II.; M., W., F.; 2; (3).* Professor DREW.

3. REAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; F.; 3; W.; 4; (2). II.; Tu.; 3; W.; 4; (2).* Professor DREW.

4. COMMON LAW PLEADING.—Text-book, *Perry's Common Law Pleading. I.; M.; 4; (1). II.; Tu., Th.; 2; (2).* Professor DREW.

5. CRIMINAL LAW.—Text-book, *Beale's Cases on Criminal Law. I.; M., W., F.; 2; (3).* Professor HUGHES.

6. PERSONAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; Tu.; 3; (1).* Professor PICKETT.

7. DOMESTIC RELATIONS.—Text-book, *Smith's Cases on Law of Persons. II.; Tu., Th.; 4; (2).* Professor TOOKE.

8. EVIDENCE.—Text-book, *Thayer's Cases on Evidence. I.; Tu., Th.; 2; (2). II.; Tu., Th.; 2; (2).* Professor HUGHES.

9. SALES.—Text-book, *Williston's Cases on Sales. I.; M., W., F.; 4; (3).* Professor PICKETT.

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10. REAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; M., W., 3; (2). II.; W., F.; 3; (2).* Professor SCOTT.

11. AGENCY.—Text-book, *Wambaugh's Cases on Agency. I.; M., W.; 2; (2). II.; M., Tu.; 3; (1).* Professor DREW.

12. EQUITY. Text-book, *Adams's Equity. I.; Tu., Th.; 3; (2). II.; M., Th.; 3; (2).* Professor SCOTT.

13. DAMAGES.—Text-book, *Beale's Cases on Damages. I.; Tu., Th.; 4; (2).* Professor TOOKE.

14. BAILMENTS AND CARRIERS.—Text-book, *McClain's Cases on Carriers. II.; M., W., F.; 4; (3).* Professor PICKETT.

15. BILLS AND NOTES.—Text-book, *Huffcutt's Negotiable Instruments. II.; Tu., Th.; 3; F.; 1; (3).* Professor PICKETT.

16. TRUSTS.—Text-book, *Ames's Cases on Trusts. I.; T., Th.; 2; (2).* Professor DREW.

17. CORPORATIONS.—Text-book, *Smith's Cases on Private Corporations. I.; M., W.; 3; (2). II.; W., F.; 1; (2).* Professor HUGHES.

18. WILLS AND ADMINISTRATIONS.—Text-book, *Gray's Cases on Property. I.; M., W., F.; 2; (3).* Professor TOOKE.

19. PARTNERSHIP.—Text-book, *Ames's Cases on Partnership. I.; Tu., Th.; 3; (2).* Professor HUGHES.

20. EQUITY PLEADING.—Text-book, *Langdell's Summary of Equity Pleading. II.; M., W.; 4; (2).* Professor HUGHES.

21. SURETYSHIP AND MORTGAGE.—Text-book, *Ames's Cases on Suretyship. II.; M., F.; 3; (2).* Professor DREW.

22. CONSTITUTIONAL LAW.—Text-book, *McClain's Cases on Constitutional Law. I.; M., F.; 4; (2). II.; M., F.; 4; (2).* Professor SCOTT.

23. INTERNATIONAL LAW.—Text-book, *Snow's Cases on International Law. I.; Tu., Th.; 4; (2). II.; Tu., Th.; 4; (2).* Professor SCOTT.

24. MUNICIPAL CORPORATIONS.—Text-book, *Smith's Cases on Municipal Corporations. II.; M., W.; 2; (2).* Professor TOOKE.

25. PRACTICAL CONVEYANCING.—Text-book, *Illinois Statutes. I.; F.; 3; (1). II.; Th.; 2; (1).* Profesor PICKETT.

26. MOOT COURT. *I.; F.; 2-5 p. m. II.; F.; 2-5 p. m.* Mr. Justice HARKER.

LIBRARY SCIENCE

1. ELEMENTARY LIBRARY ECONOMY.—Instruction begins with the selection of books and the placing of an order, and follows the regular library routine.

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The work of the order department is taught by lectures and practice. American, English, French, and German trade bibliography is introduced. Instruction in the accession department is according to Dewey's Library School Rules. Lectures are given upon duplicates, exchanges, gifts, importing, copyright, and allied topics.

The Dewey decimal classification is taught by classifying books. In the shelf department Dewey's Library School Rules is used and supplemented with lectures. Sample shelf-lists are made with both sheets and cards.

Cataloging is taught according to Dewey's Library School Rules and Cutter's Rules for a Dictionary Catalogue. After each lecture students are required to catalog independently a number of books. The class is taught to modify the rules to suit different types of libraries. Lectures are given on forms of card catalogs and mechanical accessories. Library handwriting is practiced in connection with all the work.

Instruction is given on loan systems and on binding and repair work.

Single lectures are given on library associations, library schools, library commissions, traveling libraries, home libraries, and library economy publications, to acquaint students with current general library topics. Once in two weeks the entire school examines all library publications received since the last meeting, and considers them in their relation to library history, biography, and administration. *I.; daily; 2; (10). II.; daily; 2; (4).* Professor SHARP.

2. ELEMENTARY REFERENCE.—Lessons are assigned on reference books considered in groups, such as indexes, dictionaries, encyclopædias, atlases, hand-books of history, hand-books of general information, quotations, statistics, etc. Reference lists are prepared for special classes and for literary societies, and the students have practical work in the reference department of the library. *I., II.; Tu.; I.; (2).* Assistant Professor MUDGE.

3. SELECTION OF BOOKS.—Study is based upon the Publishers' Weekly. Each student checks new books considered suitable for a college, public, or village library. Representative new books are examined and reviewed by each student and discussed in class with particular reference to the author and subject of the book, its special features, probable value in different types of libraries, and the extent to which it supplements or supersedes earlier books on the same subject. The comparative method is followed wherever possible, and the aim of the course is both to acquaint the students

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with new books and to develop some of the principles governing the selection of books for different types of libraries. The course continues through two years. *I., II.; 1; (2).* Assistant Professor MUDGE.

4. ELEMENTARY APPRENTICE WORK.—The purpose of this work is to familiarize the students with the minor work of a library and to acquaint them with the books in the University library. Each student is given practical work in the mechanical preparation of books for the shelves, and in the copying of minor library records assigned as practice in library handwriting.

The care of the books in the stacks, including the reading of shelves, is assigned to the students, who are thus brought in contact with the books. Upon the completion of a class study, practical work upon this study is assigned to such students as are capable of doing independent work. The work is all done under the direction of an instructor. *I.; daily; 3; (2). II.; daily; 3; (8).* Miss MANN.

Required: Library 1, 2.

5. ADVANCED LIBRARY ECONOMY.—In a comparative study of classification are discussed the systems of Dewey, Cutter, Edwards, Fletcher, Perkins, Smith, and Schwartz. A comparative study of cataloging considers the rules of British Museum, Jewett, Library Association of the United Kingdom, Bodleian Library, American Library Association, Wheatley, Perkins, Cutter, and Dewey. Problems are given in organizing and reorganizing libraries, and the class discusses questions affecting the founding and government of libraries, library legislation, library architecture, library administration, and current problems in public and college library work. *I.; M.; 3; (2); II.; M., W.; 3; (2).* Professor SHARP and Miss MANN.

Required: Library 4.

6. PUBLIC DOCUMENTS.—The publications issued by the U. S. government are carefully studied both for their value as reference books and for the correct methods of cataloging. Methods of printing and distribution, and important indexes, both general and special, are carefully considered. The important publications of each executive department of the government are taken up and various editions in which these appear are noted. Practical reference questions are given to familiarize students with the books, and a sample catalog is made illustrating the various principles. The rules followed in this work are carefully compiled by each student. *I.; W.; 3; (2).* Miss MANN.

Required: Library 1, 2.

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7. BIBLIOGRAPHY.—Students select books on important subjects and their selection is criticised by professors of the University, who give suggestions as to principles of selection in their specialties. *I., II.; Tu.; 3; (2).* Professor SHARP.

Required: Library 1, 2.

8. HISTORY OF LIBRARIES.—Libraries are studied by types and by countries, special attention being given to libraries in the United States. *I.; W.; 1; (2).* Professor SHARP.

9. ADVANCED REFERENCE.—The course takes up transactions of societies and other advanced reference books. A report on current events is introduced as a practical feature of reference work. *II.; Th.; 1; (1).* Assistant Professor MUDGE.

Required: Library 1, 2.

10. BOOK-MAKING.—The course includes the history of printing, printers' marks, book-plates, and the history and art of binding. *II.; W.; 1; (1).* Professor SHARP.

11. ADVANCED APPRENTICE WORK.—This consists of independent technical work in the University library and of public library work in Champaign, averaging two hours a day through the year. Seniors revise junior cataloging for review, and they classify and catalog new books, and have regular assignments at the reference desk. They also have juniors assigned to them as assistants to test their executive ability. *I., II.; daily; 4; (5).* Miss MANN.

Required: Library 4.

12. THESIS.—Each student is required to prepare a thesis for graduation. This must be on some library topic, and must represent original research. An original bibliography, instead of a thesis, may be presented upon the approval of the director. *I.; arrange time; (1). II.; arrange time; (3).* Professor SHARP.

Required: Library 1, 11.

13. GENERAL REFERENCE.—This course is offered to all students of the University who wish to become familiar with the ordinary reference books. It will comprise lectures on the catalog, classification, the reference-room, the reading-room, and groups of books, such as indexes, dictionaries, encyclopædias, atlases, hand-books of general information, hand-books of history, statistics, quotations, etc. *I.; M.; 6:30 p. m.; (1).* Professor SHARP.

MATHEMATICS.

1. ADVANCED ALGEBRA.—For students in courses requiring spherical trigonometry. This course presupposes a thorough knowledge of elementary algebra through simultaneous quadratics and

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proportion. Students, who for any reason have not had this elementary work recently, would find it to their advantage to review it thoroughly before commencing this course. The work will cover the following topics: Progressions, indeterminate equations, binomial theorems for fractional and negative exponents, undetermined coefficients, decompositions of fractions, theory of limits, convergency and divergency of series, reversion of series, summation of series, logarithms, continued fractions, permutations, and combinations, probability, and the loci of equations. *I.; Tu., Th.; section A, 2; section B, 4; (2).* Mr. COAR and Mr. PONZER.

2. ADVANCED ALGEBRA.—For students in courses not requiring spherical trigonometry, to be taken with course 4. This course will cover all the work given in course 1, and in addition will include a short introduction to the general theory of equations, with applications to the solution of numerical equations. *I.; M., W., F.; section A, 1; section B, 2; section C, 3; section D, 4; section E, 6; (3).* Mr. MILNE and Mr. COAR.

3. PLANE AND SPHERICAL TRIGONOMETRY.—This course covers the same ground in plane trigonometry as course 4. In addition to the work outlined there, about two-fifths of the term will be given to developing the general principles and applications of spherical trigonometry. *I.; M., W., F.; section A, 2; section B, 4; (3).* Mr. COAR and Mr. PONZER.

Required: Solid and Spherical Geometry.

4. PLANE TRIGONOMETRY.—The following topics will be taken up, viz.: Measurements of angles, trigonometric functions and their fundamental relations, functions of the sum and the difference of two angles, functions of twice an angle and of half an angle, the construction and use of logarithmic tables, solution of trigonometric equations, the relations between the sides of a triangle and the functions of its angles, the solution of triangles, Demoiyre's theorem and trigonometric series. It is intended that this course shall be taken with course 2 in advanced algebra. *I.; Tu., Th.; section A, 1; section B, 2; section C, 3; section D, 4; section E, 6; (2).* Mr. MILNE and Mr. COAR.

6. ANALYTICAL GEOMETRY.—The aim is to acquaint the student with analytical methods of investigation and to familiarize him with some of the most recent developments in synthetic geometry; to make him more skillful in the use of algebraic processes, especially as a means of demonstrating geometric properties of loci. Subjects considered are the elementary theory of the point and right line in a plane; use of abbreviated notation; elementary theory of the conic

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sections; their equations and properties developed analytically; poles and polars; synthetic geometry of the circle, and the discussion of the general equation of the second degree, and of some higher plane curves. The course will also include a discussion of the following subjects: Coördinate systems for a point in space, the locus in space of an equation of the first and second degree, planes and straight lines, quadratic surfaces. *Tanner and Allen's Analytic Geometry. II.; daily; section A, 1; section B, 3; section C, 6; (5).* Mr. MILNE, Mr. COAR, and Mr. PONZER.

Required: Mathematics 2, 4 or 1, 3.

7. DIFFERENTIAL CALCULUS.—Variables and functions; limits and infinitesimals; differentials and derivatives; differentiation of explicit functions, implicit functions, and functions of several variables; derivatives of higher orders; successive derivatives, developments in series; maxima and minima of functions; indeterminate forms; plane curves, tangents, and normals; asymptotes, singular points, and curve tracing; theory of envelopes, of curvature, of evolutes, and of involutes. *I.; daily; section A, 1; section B, 2; section C, 4; (5).* Mr. SHORT.

Required: Mathematics 6.

9. INTEGRAL CALCULUS.—Elementary forms of integrations; integrals immediately reducible to the elementary forms; integration by rational transformations; integration of irrational algebraic differentials; integration of transcendent functions; definite integrals; successive integration; differentiation under the sign of integration; integration by means of differentiating known integrals; double integrals; triple and multiple integrals; product of two definite integrals.

Rectification and quadrature; the parabola, the ellipse, the cycloid, the Archimedean spiral, the logarithmic spiral, the limniscate, the cycloid, quadrature of surfaces of revolution and of surfaces in general; cubature of volumes; the sphere, the pyramid, the ellipsoid, any solid of revolution, and of volumes in general. *II.; daily; section A, 1; section B, 2; section C, 4; (5).* Mr. SHORT.

Required: Mathematics 7.

10. THEORY OF EQUATIONS.—The development of the general properties of equations; relations of the roots and the coefficients of an equation, with applications to symmetric functions; transformation of equations; solution of reciprocal and binomial equations; algebraic solution of cubics and biquadratics; properties of derived functions; the limits and separation of the roots of equations; the

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solution of numerical equations of the nth degree. *I.; M., W., F.; 1; (3)* Associate Professor TOWNSEND.

Required: Mathematics 2, 4 or 1, 3.

11. THEORY OF DETERMINANTS.—The origin and notation of determinants, properties of determinants, determinant minors, multiplication of determinants, determinants of compound systems, determinants of special forms—Jacobians, Hessians, Wronskians—with applications to algebra, including linear transformations, and to analytic geometry. *I.; Tu., Th.; 1; (2).* Associate Professor TOWNSEND and Mr. COAR.

Required: Mathematics 7, 10.

12. THEORY OF INVARIANTS.—The course will cover the general development of the theory of invariants, both from the geometric and from the algebraic side. Applications of invariants will be made to systems of conics and to higher plane curves. Lectures with collateral reading. Associate Professor TOWNSEND. [Not given in 1901-1902.]

Required: Mathematics 11.

13. THEORY OF FUNCTIONS.—This course is intended as a continuation of the work done in calculus (Math. 7, 9) and will cover the general theory of functions of real as well as of complex variables. By way of introduction considerable attention will be given to the development of the fundamental ideas of the analysis, including rational and irrational numbers, mengelehre, single and double limits. These will be applied to the study of the continuity and discontinuity of functions of one and of two real variables as well as questions of uniform convergence, existence of derivatives, condensation of singularities, definite integrals, etc. In complex variables, the same questions will again be studied covering the general theory of the analytic function from both the Riemann and the Weierstrass point of view. *I., II.; M., W., F.; 3; (6).* Associate Professor TOWNSEND.

Required: Mathematics 7, 9, 10.

14. METHOD OF LEAST SQUARES.—The object of this course is to present the fundamental principles of the subject in a manner so plain as to render them intelligible and useful to students of astronomy and engineering. The following subjects will be studied: Law of probability and error, adjustment of observations, precision of observations, independent and conditioned observations, etc. *I.; M., W., F.; 4; (2).* Mr. BRENKE.

Required: Mathematics 9.

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15. SEMINARY AND THESIS.—*I., II.; Tu., Th.; 3; (2).* Associate Professor TOWNSEND and Mr. COAR.

16. DIFFERENTIAL EQUATIONS.—This subject is designed for students in the courses of engineering and of mathematics and astronomy. It will embrace the following topics: General linear equations with constant coefficients, special forms of differential equations of higher order, integration in series, etc *I.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 9.

17. ANALYTICAL GEOMETRY OF SPACE.—A general review will be given of the position of the plane and the right line in space and the more general properties of surfaces of the second degree. To this will be added the classification and special properties of quadrics, and a brief introduction to the theory of surfaces in general. *II.; M., W., F.; 1; (3).* Associate Professor TOWNSEND and Mr. COAR.

Required: Mathematics 9.

18. HIGHER PLANE CURVES.—This course is designed to cover the general theory of algebraic curves, together with the application of the theory of invariants to higher plane curves. Special study will be made of curves of the third and fourth order. Associate Professor TOWNSEND. [Not given in 1901-1902.]

Required: Mathematics 12.

20. CALCULUS OF VARIATIONS.—This course has for its aim merely to acquaint the student with those elements of the science which are most needed in the study of the higher subjects of mathematical astronomy and physics. *II.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 11, 16.

21. SPHERICAL HARMONICS.—In this course, a thorough study is made of so much of this subject as is of interest to an astronomer. It is introduced by a short course of lectures and study of certain trigonometric series. Fourier's Theorem for developing any function of a variable in a series proceeding in sines and cosines of multiples of the variable is derived and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's and Lamé's functions and their applications to astronomical and physical problems. *I.; M., W., F.; 7; (3).* Associate Professor TOWNSEND and Mr. BRENKE.

Required: Mathematics 11, 14, 16.

22. POTENTIAL FUNCTION.—The potential function is defined and its properties derived and discussed. The potential of various

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bodies, such as of a wire, a spherical shell, a sphere, ellipsoid of revolution, etc., is computed. Poisson's and Laplace's Equations are derived and discussed. Green's Propositions with kindred and similar subjects are handled. *II.; M., W., F.; 7; (3).* Associate Professor TOWNSEND and Mr. BRENKE.

Required: Mathematics 21.

23. MODERN GEOMETRY.—This course will include in general a consideration of homogeneous coördiates, duality, descriptive and metrical properties of curves, anharmonic ratios, homography, involution, projection, theory of correspondence, etc *I.; M., W., F.; arrange time; (3).* Associate Professor TOWNSEND.

Required: Mathematics 1, 7, 9, 11.

24. ALGEBRAIC SURFACES.—In this course will be considered the application of homogeneous coördinates and the theory of invariants to geometry of three dimensions, and also the general theory of surfaces, together with the special properties of surfaces of the third and fourth order. *II.; M., W., F.; arrange time; (3).* Associate Professor TOWNSEND.

Required: Mathematics 17, 18.

25. PARTIAL DIFFERENTIAL EQUATIONS.—It deals with the integration and determination of the integration constants of such partial differential equations as arise in the study of such subjects as the flow of heat, the vibration of strings, plates, etc., and electricity. *II.; Tu., Th.; 5; (2).* Associate Professor TOWNSEND.

Required: Mathematics, 9, 16.

26. STATISTICAL ADJUSTMENTS.—This course is intended for students whose work requires the handling of a mass of data, statistical or observed, which is vitiated by the presence of accidental errors, in such way as to elicit the content of truth on sound mathematical principles. It is thought the course will be particularly useful to students of economics and of the observational sciences. *II.; Tu., Th.; 6; (2).* Mr. MILNE.

Required: Mathematics 7, 9.

MECHANICAL ENGINEERING

1. SHOP PRACTICE.—In the shops the work, as far as possible, is carried along the same lines as in our leading commercial shops. The exercises are, in general, chosen from parts of machines under construction, and carefully graded to the skill of the student. Beginning with the care and use of the tools with which he is to work, the student is carried through the various operations of machine-

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shop practice. Following is an outline of the work, that of the two semesters being subject to transposition.

(a) First Semester, Wood Shop.—Primary exercises relating to the care and use of tools, and a series of exercises preparatory to pattern making in joint work and turning.

Pattern and core box making, with special reference to molding.

Second Semester (b) Foundry and (c) Forge Shop.—One-half of this semester is devoted to instruction in the management of the cupola and molding, including the making of green and dry sand cores. One-half of the semester is devoted to instruction in forging and welding iron and steel. Special attention is given to tempering of lathe and planer tools, also to case-hardening and annealing. *I., II.; alternates with G. E. D., 4 sections; 1, 2, 3, 6, 7, 8; (3).* Mr. CURTISS, Mr. WILSON, and Mr. JONES.

2. SHOP PRACTICE.—First Semester. Instruction in chipping, filing, and elementary machine work. Lectures.

Second Semester.—Instruction in the various operations of lathe, screw machine, planer, drill press, shaper, grinding machine, milling machine, boring mill, as well as fitting and bench work. Lectures. *I., II.; daily; 1, 2, 3, 6, 7, 8 (divides times with M. E. 4); (2½).* Mr. CLARK.

3. POWER MEASUREMENTS.—This is the beginning of the work in the mechanical engineering laboratory, and is intended for students taking the mechanical engineering course. A study is made of the use and construction of the steam engine indicator. The measurement of power developed by the steam engine under different conditions is made a prominent part of the work. The method of applying friction brakes and measuring transmitted power is also taken up. *I.; section A, Tu., 3, 4, 5; S., 1, 2, 3; section B, Tu., 8, 9; W., 1, 2, 3; S.; section C, Th., 3, 4, 5; S.. 1, 2, 3; (2).* Mr. OLIVER.

Required: Mechanical Engineering 1, 2; Math. 9.

4. ELEMENTS OF MACHINE DESIGN.—The basis of this work is found in *Klein's Elements of Machine Design. A series of plates* 26x40 inches is constructed, covering a wide range of machine parts. By means of a large number of practical examples, sufficient drill is obtained in using rational and empirical formulas to enable the student to make the calculations required when designing various parts of machines. Theoretical and practical problems relating to gearing are taken up and worked out in detail. Instruction in blue printing and duplicating is included in the course. For description see Chem. 22c, p. 208. *Kent's Mechanical Engineer's Pocket-book;*

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also Unwin's Machine Design. I., II.; (divides time with M.E. 2); daily; 1, 2, 3, 6, 7, 8; (2½). Mr. RANDALL.

Required: General Engineering Drawing 1, 2.

5. MECHANISM.—This course includes a study of plane motion, following the methods of Reuleaux, and a study of the nature and equivalence of mechanisms. Determination of instantaneous centers and centrodes. Determination of velocities of important points of familiar mechanisms. Construction of acceleration diagrams. The transmission of motion in mechanisms by gearing, cams, links, etc. Trains of mechanism, analysis of difficult mechanisms. Particular attention is paid to problems relating to motions of gearing, steam-engine mechanisms, parallel motions of indicators, governors, link motions, valve gears, and indicator riggings. *I.; M., W., F.; 2, 3; (3).* Assistant Professor GOODENOUGH.

6. HEAT ENGINES.—The application of the theory of thermodynamics to gas and gasoline engines and hot air engines. A study of the modern forms of heat engines. Lectures and assigned readings. *I.; Tu., Th.; (2).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1; Physics 1, 3.

7. THERMODYNAMICS.—The fundamental principles underlying the transformation of heat into work, more especially as exemplified in the steam engine, are carefully studied. Considerable attention is paid to the solution of numerous examples, such as will arise in steam, air, or gas engineering. Drill is given in the rapid and accurate use of standard steam tables. *I.; M., W., F.; 1; (3).* Assistant Professor GOODENOUGH.

Required: Math. 9; Theoretical and Applied Mechanics 1; Physics 1, 3.

8. MECHANICS OF MACHINERY.—This is a study of the theoretical principles involved in the construction of hoisting apparatus, pumping engines, air compressors, fans, blowers, machinery for transmitting power, locomotives, pile drivers, and other machinery of this character. *II.; M., Tu., W., Th.; 1; (4).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 5, 7, 14.

9. ADVANCED DESIGNING.—The work in this course comes under two heads.

Original Design: This part of the course is intended more especially to develop and train the student's inventive ability. The work begins with simple problems and extends to more difficult designs as the student progresses. The machines are to be designed

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for accomplishing a certain prescribed work. Often but a single piece is handed the student, and a machine is required which will produce a given number of these pieces per hour.

Advanced Design: This includes primarily the design of heavy machinery, such as punches, shears, presses, cranes, derricks, etc., machinery subjected to heavy and variable stresses. The design of attachments to existing machines, or the complete design of some machine that can be built in the shops, is often a part of this work.

A large amount of study of existing machines is required. The student is taught to consult the standard works on designing, such as *Unwin, Reuleaux, Klein, Bach's Maschinenclemente, and Richards. I.; Tu., Th.; 2, 3, 4; (2). II.; M., W., Th.; 2, 3, 4; (3).* Professor BRECKENRIDGE and Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 8, and 14.

10. ESTIMATES, SPECIFICATIONS, AND SUPERINTENDENCE.—Calculations and estimates are made as to the cost of machinery, power plants, boilers. chimneys, systems of piping, engines and their foundations, different methods of power transmission.

Also forms of contracts and specifications are studied. *II.; Tu.; 2, 3; (1).* Professor BRECKENRIDGE.

Required: Theoretical and Applied Mechanics 1, 2, 3.

12. ADVANCED MECHANICAL ENGINEERING LABORATORY.—This work is a continuation of the work begun in the junior year. Experiments are made with engines, pumps, motors, injectors, and boilers to determine under what conditions they may be expected to give a maximum efficiency. Tests of plants in the vicinity are made, of which carefully prepared reports are always required. The dynamometer car and the railway test car described under the equipment of the department give unexcelled opportunities for experimental railway engineering. Advanced constructive work in the shops is assigned to groups of students, in order to impress upon them the intimate relation existing between the designing room and the shop. *Carpenter's Experimental Engineering. I.; M., F.; 2, 3, 4; and 6, 7, 8; (4). II.; F.; 1, 2, 3; and 6, 7, 8; (1).* Professor BRECKENRIDGE, Mr. SCHMIDT, and Mr. OLIVER.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 7, 14.

13. MECHANICAL ENGINEERING LABORATORY.—This is a laboratory course for students in other departments of the Engineering College. The student is taught to apply the indicator to different engines and to make the usual calculations of horse power and steam

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consumption as given by the diagrams. Correct forms of reducing motions are explained. The reading of indicator diagrams and valve setting are also taught. *II.; section A, M., 2, 3, 4; Tu., 1, 2, 3; section B, M., 2, 3, 4; Th., 1, 2, 3; M., section C, 2, 3, 4; Th., 6, 7, 8; (2).* Mr. OLIVER.

Required: Mechanical Engineering 1, 2; Math. 7, 9.

14. HIGH SPEED STEAM ENGINE AND VALVE GEARS.—In this course the relations between piston speed, expansion, and quiet running are carefully studied. The student is given the problem of designing an engine that will develop a prescribed maximum and minimum horse power and run smoothly at all loads within its range. Each part of a complete engine is designed, and detailed drawings are made and traced, so that each member of the class may have a complete set of blue prints.

The application of graphical diagrams as an aid in the study and design of valves for steam distribution in the engine cylinder is carefully brought out. Determination of the dimensions of steam passages, single valve gears, double valve gears, equalization of steam distribution, application of diagrams to existing types of engines. A critical study of the shaft governor. *Klein's High Speed Steam Engine. I.; Tu., W., Th.; 6, 7, 8; (3).* Assistant Professor GOODENOUGH.

Required: Mechanical Engineering 1 to 7, 16, 17; Theoretical and Applied Mechanics 1, 2.

16. STEAM ENGINES.—A study of the details of steam engines. Elementary principles of transformation of heat into work. Laws of expansion of steam. The mechanics of the steam engine. Valves and valve gears. The indicator diagram, condensers, steam jackets, super-heaters, and compound engines. *The Steam Engine, Holmes. I.; section A, Tu., Th., 2; section B, Tu., Th., 1; section C, M., W., 3; section D, M., W., 1; (2).* Mr. RANDALL.

Required: Physics, 1, 3; Mathematics 9.

17. STEAM BOILERS.—Materials used in the construction of boilers. Proportions and strength of riveted joints. Incrustation, explosions, combustion, safety appliances, feed apparatus, boiler trials. *Peabody and Miller's Steam Boilers. II.; 3 sections; M.; 1, 2, 3; (1).* Mr. RANDALL.

Required: Physics 1, 3; Mathematics 9; Chem. 1.

18. GRAPHICAL STATICS OF MECHANISM.—Graphical determination of the forces acting at different points in machines used for hoisting, crushing, punching, and transmitting motion, taking into account the resistances offered to motion by frictional resistances.

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Effect of sliding, rolling, and journal friction, chain friction, tooth friction, stiffness of ropes and belts. Graphical determination of efficiencies. *Graphical Statics of Mechanism, Herrman-Smith. II.; W; 6, 7, 8; (1).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2; Mechanical Engineering 5.

19. SEMINARY.—Work supplementary to other studies of the senior year. Presentation of papers on assigned subjects. Contributed papers on current topics. Discussion of and criticisms on new inventions. *I.; W.; 2, 3. II., 6, 7; (1).* Professor BRECKENRIDGE.

20. SHOP PRACTICE FOR SPECIAL STUDENTS.—This course is open to those entering as special students, as defined elsewhere under "Admission." The work will be arranged after consultation. The work done does not count for a credit for graduation in any of the technical courses. *Arrange time.* Mr. CLARK.

21. FORGE SHOP PRACTICE.—This course is designed for students taking the course in Agriculture. The work covers instruction in forging, such as will be of use to the practical farmer. The course may be started at the beginning or middle of either semester; *arrange time at 1, 2, 3, or 6, 7, 8; nine hours a week; (2).* Mr. JONES.

22. WOOD SHOP PRACTICE.—This course is intended for students taking the course in agriculture. Students should arrange with the instructor for nine hours' work each week. *I. or II.; 1, 2, 3, or 6, 7, 8; (3).*

COURSES FOR GRADUATES

Primary

101. Advanced Machine Design.
102. Graphics and Kinematics.
103. Mill Engineering.
104. Steam Engineering.
105. Experimental Engineering.
106. Thermodynamics.
107. Pneumatics.
108. Hydraulic Machinery.
109. Mechanical Technology.
110. Translation of Technical Engineering Work.
111. Heat Engines and Gas Engineering.
112. Locomotive Engineering.
113. Mechanical Refrigeration.

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Secondary

120. Any primary offered in the College of Engineering. Primary subjects may be taken as secondary in any course for the master's degree in the College of Engineering.

121. Indexing and Classification of Engineering Literature.

MECHANICS, THEORETICAL AND APPLIED

1. ANALYTICAL MECHANICS.—The Mechanics of engineering, rather than that of astronomy and physics, is here considered. In addition to fixing the fundamental concepts and demonstrating the general principles of equilibrium and motion, application of principles and methods is made to numerous and varied engineering problems in such a way that the student must discriminate in the use of data and in the statement of conditions. As mathematical processes and forms express most readily and quickly the rules and methods for the solution of these problems, such training is given with special care. This subject requires a thorough working knowledge of the mathematics preceding it in the course. The methods of the calculus are used whenever preferable.

Outline of the subject: Nature and measure of force; composition and resolution of forces; moments; conditions of equilibrium; resultant of systems of forces; center of gravity; moment of inertia; rectilinear and curvilinear motion, and the relation between such motion and the constraining and accelerating forces; dynamics of a rigid body; momentum and impact; work, energy, and power; mechanical advantage. *Bowser's Analytical Mechanics. I.; first 14 weeks; daily; section A, 1; section B, 2; (4).* Professor TALBOT.

Required: Mathematics 9.

2a, b. RESISTANCE OF MATERIALS.—In the treatment of this subject it is the aim to give the student a thorough training in the elementary principles of the mechanics of materials, to follow with such experiments and investigations in the materials laboratory as tend to verify the experimental laws, and to add such problems in ordinary engineering practice as will train the student in the use of his knowledge. Attention is also given to the quality and requirements for structural materials.

Outline of the subject: Elasticity of materials; stresses and strains; experimental laws; working strength for different materials; resistance of pipes and riveted joints; bending and resisting moment, shear, and elastic curve of cantilever, simple, restrained, and continuous beams; column formulas; torsion and shafts; maximum internal stresses in beams; fatigue of metals; working strength for

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repeated stresses; resilience; reliability of the common theory of flexure, as shown by actual experiment; design and strength of rolled and built beams and columns; specifications for materials and methods of testing. *Merriman's Mechanics of Materials. I.; last four weeks; daily; section A, 1; section B, 2. II.; first 7 weeks; Tu., W., Th., F.; section A, 1; section B, 2; arrange for one laboratory period of two hours each week; (3).* Professor TALBOT.

Required: Math. 9; Theoretical and Applied Mechanics 1.

3. HYDRAULICS.—In hydraulics the instruction is by text-book and laboratory work. The laws of the pressure and the flow of water and its utilization as motive power are considered. Experimental work in the hydraulic laboratory gives training in the observation and measurement of pressure, velocity, and flow, and in the determination of experimental coefficients.

The subject covers the following: Weight and pressure of water; head; center of pressure; velocity and discharge through orifices, weirs, tubes, nozzles, pipes, conduits, canals, and rivers; measurement of pressure velocity, and discharge; meters and measurements; motors, turbines, and water wheels; water power and transmission of power. *Merriman's Hydraulics. II.; last 11 weeks; Tu., W., Th., F.; section A, 1; section B, 2; arrange for one laboratory period of two hours each week; (3).* Professor TALBOT.

Required: Mathematics 9; Theoretical and Applied Mechanics 2.

4. APPLIED MECHANICS.—To be taken instead of Analytical Mechanics. The course of study and topics studied will be nearly identical. *Wright's Mechanics. I.; M., W., Th., F.; 1; (4).* Assistant Professor MCLANE.

Required: Mathematics 6.

5. STRENGTH OF MATERIALS.—To be taken instead of Resistance of Materials. The course of study will be nearly the same, though somewhat simplified. *Merriman's Mechanics of Materials. II.; M., W., F., 3; Th., 4; laboratory, W., 8 and 9; (4).* Assistant Professor MCLANE.

Required: Mathematics 6; Theoretical and Applied Mechanics 4.

COURSES FOR GRADUATES

101. Analytical Mechanics.
102. Resistance of Materials.
103. Hydraulics and Hydraulic Engineering.
104. Laboratory of Applied Mechanics.

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MILITARY SCIENCE

1. THEORETICAL INSTRUCTION.—Infantry drill regulations. For all male students. *II.; (1).* Professor FECHÉT.

2. PRACTICAL INSTRUCTION.—Infantry—School of the soldier; company and battalion; evolutions of the regiment. Artillery—School of the cannoneer and battery dismounted. Freshman and sophomore years. *I., II.; (1).* Professor FECHÉT.

3. THEORETICAL INSTRUCTION.—Sophomore, junior, and senior years; one hour each week. Military administration, field engineering, and elements of military science. This course is obligatory upon commissioned officers, and open to others. Professor FECHÉT.

Authorized text-books.—United States Drill Regulations; United States Army Regulations (1895); Manual of Field Engineering (Beach); Elements of Military Science (Wagner).

MINERALOGY

1. ELEMENTS OF MINERALOGY.—(a) The first term's work is a general introduction to the subject. Instruction includes lectures and laboratory practice. In the lectures, which occur on specified days (2 or 3 each week), such subjects as follow are discussed: Genesis of minerals; conditions favoring their deposition; origin of the massive and crystalline forms; relationships of minerals and their classification; the physical properties of minerals, as color, luster, hardness, gravity, streak, etc., with the conditions which may cause these properties to vary; and the elements of crystallography, including a study of the typical whole, half, and quarter forms of each system, and their identification when in combination.

In the laboratory the student is first made acquainted with the simplest trustworthy methods for proving the presence or absence of the acids and bases. He is then required to determine a large number of species by their physical and chemical properties only.

(b) Petrography of Crystalline Rocks: The instruction under this topic is given by lectures and laboratory work. The subjects included are the classification of rocks, the methods used in their determination, the conditions governing the formation of each species, the decompositions to which they are liable, and the products of these decompositions. Each student is supplied with a set of blowpipe tools and reagents, and a series of hand specimens covering all the common species of rocks. The course is continued under Geology 1b. *I.; daily; 1, 2; (5).* Professor ROLFE and Mr. Fox.

Required: Chemistry 1.

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2. ADVANCED MINERALOGY.—(a) Crystallographic Mineralogy. During the first part of the semester a mere detailed study of the forms of crystals and their combinations is made. The student is required to identify many species of minerals by measuring their angles with the contact or reflecting goniometer, and calculating their crystallographic constants.

(b) Optical Mineralogy. About eleven weeks are devoted to the microscopic determination of rock-forming minerals. *II.; daily; 3, 4; (5).* Professor ROLFE and Mr. Fox.

Required: Mineralogy 1.

MUNICIPAL AND SANITARY ENGINEERING

1. ROAD ENGINEERING.—The value and importance of road improvement in country highways and the best means of securing it are considered, together with the principles and details of construction of earth, gravel, and macadam roads. In city streets, the methods of construction, cost, durability, and desirability of the various kinds of pavement, and the questions of grades, cross-sections, methods of assessment of cost, and methods of maintenance and cleaning are treated. *Byrne's Highway Construction. Lectures and Reading. II.; W.; 3; (1).* Professor BAKER.

Required: Math. 4; General Engineering Drawing 1, 2; Civil Engineering 1, 2, 3, 4.

2. WATER SUPPLY ENGINEERING.—This subject is intended to cover the principal features of the construction of water works, including the tests and standards of purity of potable water; the choice of source of supply; the designing of the distribution system, pumps and pumping machinery, reservoirs, and stand-pipes. *Lectures; Folwell's Water Supply Engineering. I.; M., Tu., W., Th.; 4; arrange for drafting, 12 periods; M., 6, 7, 8; (4).* Professor TALBOT.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1; Mechanical Engineering 16.

3. SEWERAGE.—The design and methods of construction of sewerage systems of cities, including the following: Sanitary necessity of sewerage; water carriage systems, both separate and combined; surveys and general plans; hydraulics of sewers; relation of rainfall to storm water flow, and determination of size and capacity of sewers; house sewage and its removal; form, size, design, and construction of sewers and sewer appurtenances; modern methods of sewage disposal; estimates and specifications. *Lectures; Folwell's*

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Sewerage. II.; M., W., F.; 3; arrange for drafting, 10 periods; M., 3, 4, 5; (3). Professor TALBOT.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1.

5a. BACTERIOLOGY.—For students in Municipal Engineering. This course includes the identification and classification of bacteria, and of allied organisms, their relations to health and to disease, the methods of separation and cultivation, and the methods of air and water analysis. The laboratory is furnished with sterilizers, culture ovens, microscopes, etc., and students have abundant opportunity to do practical work. This course follows Civil Engineering 4a. *I., last 7 weeks; daily; 6, 7; (2).* Professor BURRILL.

6. WATER PURIFICATION, SEWAGE DISPOSAL, AND GENERAL SANITATION.—This work includes the consideration of impurities in water supplies and the study of the methods and processes of their removal; the modern methods of sewage disposal by filtration, chemical precipitation, irrigation, etc., with a study of representative purification plants; garbage collection and disposal; sanitary restrictions and regulations and general sanitation. Lectures and seminary work. *II.; daily; 4; (5).* Professor TALBOT.

Required: Municipal and Sanitary Engineering 2, 3, 5a; Chemistry 1, 3a.

COURSES FOR GRADUATES

Water Supply Engineering

101. Tanks, Stand-Pipes, and Reservoirs.
102. Sources and Requirements of Water Supply for a City and Removal of Impurities.
103. Water Works Management and Economics.
104. Pumps and Pumping.
105. General Water Works Construction.
106. Biological and Chemical Examination of Potable Water.
107. Description of Water Supply Systems.

Sewerage

111. Sewage Purification.
112. Sewage Disposal Works.
113. General Sewerage Design and Construction.
114. City Sanitation.
115. Description of Sewerage Systems.

Road Engineering

118. Economic Aspect of Good Roads and Pavements.
119. Construction of Roads and Pavements.

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Miscellaneous Subjects

121. Critical Description of Engineering Construction.

122. Translation of Technical Engineering Work from French or German.

123. Any Primary in Civil Engineering.

124. Any Primary in Theoretical and Applied Mechanics.

125. Any Primary in Mathematics, Mechanical Engineering, or Electrical Engineering—Secondary.

126. Indexing of Municipal and Sanitary Engineering Literature in Engineering Periodicals.

MUSIC

Course 1 will be counted for credit toward the regular degree for students in the College of Literature and Arts, provided they are at the same time enrolled *in the School of Music.* Courses 7 and 8 are counted for credit for all students who take them.

1. History of Music.—Lectures on the development of music from its beginning among the Greeks to the present day, including the rise of dramatic music, the origin and progress of the oratorio, the evolution and development of instrumental forms, and studies in the lives of the composers. Assigned collateral readings. *I., II.; arrange time; (3).* Mr. Scheld.

2. Theory of Music.—a. A course in harmony, two hours a week, in class, through three semesters. *Emery's Harmony,* with additional exercises. *Weitsman's Theory of Music. (13 in all.)*

b. A course in counterpoint, two hours a week in class through one semester. *Richter's Counterpoint. (3.)*

c. A course in fugue, two hours a week in class through one semester. *Richter's Fugue. (3.)*

d. A course in musical analysis, which may be taken at the same time with the studies in counterpoint and fugue. The second, third, and fourth parts of this course are open only to advanced students showing special aptitude. *(3.)* Mr. Scheld.

3. Course for the Piano.— (a) *Preparatory.* This course is equivalent to three years' work. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, principles of technique, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. Music used: Herz, Scales and Exercises; Loeschhorn, Op. 65, 66; Lemoine, Op. 37; Heller, Op. 45; Bertini, Op. 29, 32; Czerny, Op. 299, Bks. 1, 2; Bach's Little Preludes; also sonatinas and easier sonatas and com-

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positions by Clementi, Kuhlau, Haydn, Mozart, Mendelssohn, Merkel, Dussek, Diabelli, Grieg, Bargiel, and others. Miss Fox.

(b) *Collegiate.* First year. Studies in development of technique; Czerny, Op. 299, Bks. 3, 4; Czerny, Octave Studies; Cramer, Etudes; Jensen, Etudes; Bach, Two-Voice Inventions and French Suites; sonatas of Haydn and Mozart; easier Sonatas of Beethoven; Songs Without Words, Mendelssohn; compositions (smaller works) of Beethoven, Chopin, Schubert, Raff, Greig, Chaminade, Moszkowski, and others. *(10 in all.)* Professor JONES and Miss Fox.

Second Year. Daily technique; Czerny, Op. 740; Bach, Three-Voice Inventions and English Suites; sonatas and other compositions of Scarlatti, Beethoven, Schubert, Schumann, Mendelssohn, Weber, Raff, Rubinstein, Saint Saens, Godard, MacDowell, and others. *(13 in all.)* Professor JONES and Miss Fox.

Third Year. Selections: Clementi, Gradus ad Parnassum; Moscheles, Op. 70; Kullak, Seven-Octave Studies, Bk. 2; Bach, Well-Tempered Clavichord; sonatas and concertos by Mendelssohn, Weber, Beethoven, Hummel, Brahms, etc.; selections from works of Bach, Chopin, Schubert, Schumann, Brassin, Rubinstein, Liszt, Moszkowski, Scharwenka, and other modern composers. *(17 in all.)* Professor JONES.

Fourth Year. Selections: Octave Studies; Clementi, Gradus, continued; Bach, Well-Tempered Clavichord, continued; Chopin, Etudes; Henselt, Etudes; Rubinstein, Etudes; sonatas by Beethoven, and concertos and other compositions by the great masters, classic and romantic, both of the older and the more modern schools. *(17 in all.)* Professor JONES.

4. a and b. COURSE FOR THE ORGAN.—Similar preparatory and collegiate courses for the organ will be offered for anyone caring to make this the principal instrument. Professor JONES.

5. COURSE FOR THE VOICE.—(a) *Preparatory.* The placing of the voice and proper position of the mouth and throat. Randegger's Singing. The first fifteen of the Fifty Conçone Studies. Simple songs for rhythm, accent, and proper pronunciation of words.

(b) *Collegiate.* First Year: Voice production, Randegger's Singing, continued. All the Fifty Conçone Studies. Songs of Mendelssohn, Schubert, and those of good modern composers. *(10 in all.)*

Second Year: Voice Production. Viardot-Garcia's Hour of Study. Book I. for technical work. Twenty-five and Fifteen Conçone Studies for soprano and tenor and the Forty Conçone for alto

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and bass. Songs of German, French, and English composers, and simple selections from operas and oratorios. *(13 in all.)*

Third Year: Voice production. Viardot-Garcia's Hour of Study, Book II. Bordogni's Thirty-six Studies for soprano or tenor, its equivalent, Sieber or Bordese for alto or bass. Selections from oratorios and from French, German, and Italian operas. Songs of considerable difficulty by German, English, French, and Italian composers. *(17 in all.)*

Fourth Year: Voice production. The Twenty-four Panofka Studies. Lütgen's Operavocalisen, Book II. Italian, French, German, and English songs of all standard composers. Solos and concerted work from the modern as well as the standard operas and oratorios. *(17 in all.)* Miss FERNIE.

6. COURSE FOR THE VIOLIN.—(a) *Preparatory.* Violin methods by Hermann, Kayser, Sitt, Mazas, etc. Schradieck's Technical Studies. Etudes by DeBeriot, Murts. Easy solos.

(b) *Collegiate.* First Year: Etudes by Kreutzer, Mazas, Fiorillo, etc. Concertos by Viotti, Rode, Kreutzer, DeBeriot. Sonatas by Mozart, Beethoven, Handel, Gade. *(10 in all.)*

Second Year: Etudes by Rode, Gavinies and Campagnoli, Concertos by Spohr, Bruch, Vieuxtemps, Molique, etc. Sonatas by Beethoven and Grieg. *(13 in all.)*

Third Year: Caprices by Paganini. Concertos by Bruch, Mendelssohn, Saint Saens, Joachim. Ensemble work. *(17 in all.)*

Fourth Year: Bach sonatas. Concertos by Beethoven, Bruch, Brahms, Tschaikowsky, Dvorak, Saint Saens. Ensemble work. *(17 in all.)* Mr. SCHELD.

7. University Orchestra. *Two hours' rehearsal once a week throughout the year. (2.)* Mr. SCHELD.

8. University Choral Society. *One hour rehearsal once a week throughout the year. (1).* Miss FERNIE.

PALEONTOLOGY

1. ADVANCED PALEONTOLOGY.—The work outlined under geology 1d (p. 230) can do little more than introduce the general subject. To those who desire a better acquaintance with paleontology a course of one or two semesters is offered.

This course includes: (a) Discussion of the biological relations to fossil forms along the lines indicated in Williams' Geological Biology; (b) a discussion of the principles of classification as applied to fossils, together with the characteristics which distinguish the larger groups, using Nicholson, Bernard, and Zittel as guides;

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(c) a study of the distribution and variations of the genera and species of one or more of the important groups as illustrated by the collections of the University, using the various state reports and Miller's Handbook as aids. Ten hours a week. A major in botany and zoölogy would aid the student greatly in this work, but neither is required. See under mineralogy and geology. *I., II.; daily; 3, 4; (5).* Professor ROLFE and Mr. FOX.

Required: Geology 1.

PEDAGOGY

(See Education, page 219.)

PHILOSOPHY

1. LOGIC.—For the required credit in philosophy, students may select either of the following courses:

a. This course considers the nature of judgment and inference. Emphasis is laid upon practice in division, definition, forms of syllogism, deductive and inductive fallacies. This course is recommended to students who are interested in psychology or philosophy. *I.; M., W., F.; 2; (3).*

b. Special attention is given to fallacies and to the problems, grounds, and principles of induction. The study is designed not only to direct the student in practical reasoning and correct thinking, but also to familiarize him with the principles and methods of scientific investigation. *II.; M., W., F.; 2; (3).* Professor DANIELS.

2. OUTLINES OF PHILOSOPHY.—A general introduction to the study of philosophy. *I.; M., W., F.; 4; (3).* Professor DANIELS.

3. ANCIENT AND MEDIÆVAL PHILOSOPHY.—A rapid survey is taken of the development of speculative thought, beginning with the early Greek philosophers and continuing through the mediæval period. *I.; Tu., Th.; 3; (2).* Professor DANIELS.

4. MODERN PHILOSOPHY.—This course considers the formation and development of the problems and conceptions in philosophy from Déscartes to the present time. Selections from the philosophical masterpieces of this period are carefully studied. Special emphasis is laid upon the philosophy of Kant. *II.; daily; 3; (5).* Professor DANIELS.

5. ADVANCED PHILOSOPHY.—The seventeenth century philosophy. A critical study of Déscartes, Spinoza, and Leibnitz. *I., II.; Tu., Th.; 7; (2).* Professor DANIELS.

Required: Two semesters in philosophy or psychology.

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6. PRACTICAL ETHICS.—In this course those questions which bear the closest relation to life and conduct are raised and discussed. The duties of the individual, the family, and the state are among the subjects considered. Special subjects in social ethics may be taken up. *I.; Tu., Th.; 1; (2).* Professor DANIELS.

7. HISTORY AND CRITICISM OF ETHICAL THEORIES.—A careful and historical examination of the various types of ethical theory, including rational, hedonistic, eudemonistic, esthetic, and evolutional ethics. It is designed to make the student as familiar as the time allows with the writings of representative men of the various schools. *II.; M., W., F.; 1; (3).* Professor DANIELS.

8. ESTHETICS.—A brief history and a critical study of the various theories of the beautiful. Lectures and assigned readings. *II.; Tu., Th.; 4; (2).* Professor DANIELS. [Not given in 1901-1902.]

COURSE FOR GRADUATES

101. The Philosophy of Kant.

PHYSICAL TRAINING

FOR MEN

1. GYMNASIUM PRACTICE.—Two half hours' class-work, and two half hours' prescription exercises, each week. *Required of freshmen throughout the year. With course 3, 2½ hours.* Professor SHELL.

2. GYMNASIUM PRACTICE.—Two half hours' class-work and two half hours' prescription exercises. *Throughout the year. With course 4; (2½).* Professor SHELL.

Required: Physical Training 1, 3.

3. LECTURES.—Lectures upon bodily health, including such subjects as the bath, sleep, diet, ventilation, clothing, injuries from over-work and study, sedentation, tobacco, alcohol, improper posture, etc. *Once a week throughout the year. Freshmen are required to attend this course. With course 1; (2½).* Professor SHELL.

4. LECTURES.—Muscular form and action, effects of exercise, causation of fatigue, breathlessness, coördination, automatism, deformities, etc. *Once a week through the year. With course 2; (2½).* Professor SHELL.

Required: Physical Training 1, 3.

5. THEORY OF PHYSICAL TRAINING.—For those preparing as instructors. Study of the systems of gymnastics; methods of teaching; class work; use of apparatus; effects on body; measurements;

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testing prescription. *Throughout the year; (2).* Professor SHELL.

Required: Physical Training 2, 4.

6. COMPETITIVE ATHLETICS.—History of games and sports; general training; special forms and methods of coaching for track, fencing, wrestling, boxing, base ball, foot ball, basket ball, hockey, etc. *Throughout the year; (2).* Professor SHELL.

Required: Physical Training 2, 4.

FOR WOMEN

7. PRACTICE.—Class and prescription exercises in the gymnasium and field. *Three hours a week throughout the year. Required of freshmen. With course 9; (3).* Miss CARPENTER.

8. PRACTICE.—*Three hours a week throughout the year; (2).* Miss CARPENTER.

Required: Physical Training 7, 9.

9. HYGIENE.—The same as Physiology 6, which see. *Required of freshmen. With course 7; (3).* Professor KEMP.

PHYSICS

1. GENERAL PHYSICS.—A course of experimental lectures. The subjects for the first semester are mechanics, heat and sound; for the second semester, electricity and magnetism and light. The course is always to be taken in connection with the laboratory course, Physics 3. *I., II.; Lectures, M., W., F.; 5; Quiz, Tu. or Th.; 3; (3).* Professor CARMEN, Mr. ———.

Required: Mathematics 3 or 4.

2. MINOR COURSE IN PHYSICS.—The course includes selected parts in mechanics, heat, light, and electricity, and is designed for students in general science and in medical courses. *II.; Lectures, Tu., Th.; 5; Laboratory, 7 periods; arrange time; (5).* Professor CARMAN, Assistant Professor QUICK, Mr. ———.

Required: Mathematics 3 or 4.

3. INTRODUCTION TO PHYSICAL MEASUREMENTS.—Laboratory experiments running parallel with Physics 1, and required of the same students. The experiments are quantitative, illustrative of lectures, and introductory to more advanced laboratory work. *I., II.; 3 periods; arrange time; (2).* Assistant Professor QUICK, Mr. ———.

Required: Mathematics 3 or 4.

4. ELECTRICAL AND MAGNETIC MEASUREMENTS.—Recitations and laboratory. The course of recitations and lectures covers the elementary mathematical theory of electrostatics, magnetism, magnetic

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properties of iron, electrodynamics, and direct, alternating and polyphase currents. In the laboratory the usual electrical and magnetic measurements are made, the work running parallel with the recitation work. *I., II.; Lecture, Tu., Th.; 6; Laboratory; arrange time; (4).* Assistant Professor SAGER.

5. ADVANCED PHYSICAL MEASUREMENTS.—A laboratory course supplemented by lectures. The following lines of work are offered. Each line of work is arranged to take ordinarily one semester, but in special cases a different arrangement of experiments may be made.

(a) Mechanics.—A course of exact measurements of mass, length, volume, densities, time, and gravity, using the balance, dividing engine, cathetometer, chronograph, etc.

(b) Light.—Measurements of indices of refraction and wave lengths, using the spectrometer with prisms and grating, and the concave grating with its mounting, also using the optical bench in experiments in interference, etc.

(c) Electricity and Magnetism.—A course of exact measurements of resistance, current, electromotive force, capacity, and magnetic quantities.

(d) Electricity and Heat.—A course of measurements of resistance, current, and electrolytic conductivity, and some measurements of specific heat and thermal capacity. Designed particularly for students in chemistry or general science. *I., II.; arrange time; (3 or 5).* Professor CARMAN and Assistant Professor SAGER.

Required: Physics 1, 3, or 2.

6. INTRODUCTION TO THEORETICAL PHYSICS.—A course of lectures and recitations on some branch of theoretical physics. The subjects taken in the last three years have been, mathematical theory of electricity and magnetism, advanced dynamics, and thermodynamics. The subjects for 1900-1901 will be mechanics, theory of potential, and the mathematical theory of electricity and magnetism. *I., II.; M., W., F.; 6; (3).* Professor CARMAN and Assistant Professor SAGER.

Required: Physics 1, 3, or 2; Mathematics 9.

7. INVESTIGATION OF SPECIAL PROBLEMS.—An advanced laboratory course in continuation of Physics 5. The student is given one or more special subjects of investigation to be conducted under the direction of the professors of the department. The machine shop of the department makes possible special and original apparatus. *I., II.; arrange time; (3).* Professor CARMAN and Assistant Professor SAGER.

Required: Physics 4 or 5, or equivalent.

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8. MATHEMATICAL PHYSICS.—A course of lectures and recitations. The subjects treated are changed each year, and are chosen to cover the general subject in two consecutive years, each year being complete in itself. The electromagnetic theory of light is the special subject for 1900-1901. *I., II.; arrange time; (3).* Professor CARMAN.

Required: Physics 5 or 6.

9. ADVANCED ELECTRICAL MEASUREMENTS.—A course in the theory and practice of the calibration of electrical measuring instruments, using the potentiometer and other standard methods. *II.; arrange time; (1).* Assistant Professor SAGER.

Required: Physics 4.

COURSES FOR GRADUATES

101. Advanced Physical Measurements and Investigation.

102. Mathematical Physics.

103. Mathematical Theory of Electricity and Magnetism for Engineers.

PHYSIOGRAPHY

1. PHYSIOGRAPHY.—Three objects are aimed at in this course, viz.: To promote the change in the method of teaching geography so generally advocated in recent years, to provide a rational basis for the study of geographic distribution of animals and plants, to place in their proper light the geographic factors in the history of man and his present well being.

The first part of the semester is devoted to a discussion of the general principles of meteorology, oceanography, and climatology. This is followed by a study of the physical geography of North America and Europe, with reference to the objects named above.

It is assumed that the student has a good understanding of political geography, and of the principles of land development, etc., as set forth in such works as Davis's Physical Geography, Mill's Realm of Nature, or Tarr's Physical Geography. *I.; daily; 3, 4; (5).* Professor ROLFE and Mr. FOX.

Required: Geology 1 or 3, or an approved entrance credit in Geology, or Physical Geography.

PHYSIOLOGY

1. MAJOR COURSE.—This course is founded on the previous thorough training of the student in physics, chemistry, and zoölogy. The course is designed primarily to prepare those taking it to enter upon the study of medicine. The work begins with a comprehensive

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study of the microscopic structure of the tissues in general, and later includes the structure of the organs in particular, with special relation to their functions. The course, together with courses in chemistry recommended for prospective medical students, will complete a very thorough study of physiological chemistry, so far as it relates to the normal composition and functions of the organs and excretions. Frequent demonstrations in experimental physiology are given before the class, and the student is required to perform a number of such experiments under the immediate direction of the instructor. In addition, the students, working in small groups, will be required to perform assigned experiments, and to submit their records and data for examination and criticism. Practical laboratory work is insisted on throughout. *I., II.; daily; 3, 4; (5).* Professor KEMP.

Required: Physics 1, 3; Chemistry 1, 2, 3a, 5a, 9, 9c; Zoölogy 2.

2. ADVANCED COURSE.—Continuation of Physiology 1 through a second year. This course is designed for students who wish to get as thorough a training as possible for the study of medicine, and who can afford to take the full science course at the University leading to the B.S. degree. The work will be made up of lectures, assigned reading, and experiments in the laboratory conducted by the students themselves, under the supervision of the instructor. Course 1 will necessarily give but a limited opportunity for such personal work on the part of the student. Course 2 will enable him to have a fair degree of experience with methods and apparatus used in the most advanced lines of medical study. *I., II.; daily; 3, 4; (5).* Professor KEMP.

3. INVESTIGATION AND THESIS.—The laboratory of the physiological department is well equipped with instruments of precision for research in histology, physiological chemistry, experimental physiology, and pharmacology. Every facility and encouragement, so far as the resources of the laboratory permit, are offered to those prepared to avail themselves of these for researches leading to theses for the bachelor's, master's, or doctor's degree, or for carrying on original work for publication.

4. MINOR COURSE.—This course is planned for literary students and for students of natural science specializing in other lines. Especial emphasis is laid upon those facts that serve as a basis for practical hygiene, and for helping students to teach physiology in high schools. It will consist of lecture demonstrations, recitations, and laboratory work. Students who have had chemistry and

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zoölogy in high schools may be admitted to the course at the option of the instructors. *II.; daily; 7, 8; (5).* Professor KEMP.

Required: Chemistry 1; Biology 1.

5. SPECIAL PHYSIOLOGY. There are here included the following lines of laboratory work, any one or more of which may be pursued independently of the others: (a) The physiology of foods, and digestion; (b) the blood, circulation, and respiration; (c) the excretions, especially urine-analysis; (d) general physiology of nerve and muscle; (e) advanced vertebrate, especially human, histology. This course may be taken after Physiology 4, and is recommended for those who wish to work a year in Physiology without having the requirements to enter the class in Physiology 1. It may also be taken for less than five credits. Work to be arranged after consultation with Professor KEMP.

6. HYGIENE.—This course is offered to both men and women, and must be taken by young women who take physical training for credit. It is designed to impart a knowledge of the conditions of bodily health and activity. The course deals with those practical hygienic problems of everyday life that are wholly or in large part under the control of each individual. *I.; M.; 8; (1).* Professor KEMP.

PSYCHOLOGY

1. ELEMENTARY PSYCHOLOGY.—This course is intended for beginners in psychology. The whole field is covered as fully as the time will permit, and a substantial basis is given for further studies in psychology, philosophy, and education. James's Psychology is used as a text. *II.; M., W., F.; 2; (3).* Mr. ———.

Required: At least one year of university work.

2. EXPERIMENTAL PSYCHOLOGY.—The object of the course is to give the student an acquaintance with normal psychical phenomena and training in laboratory methods. The laboratory periods are devoted to experiments in sensation and the time relations in mental processes. Lectures, recitations, themes, and laboratory work. Two lectures weekly and six hours' laboratory work. *I.; lectures, M., W.; 4; arrange time for laboratory; (5).* Professor DEXTER and Mr. ——.

Required: Two years of university work.

3. THIS IS A CONTINUATION OF COURSE 2. The laboratory method will be continued in the study of the higher psychic activities. The work is especially adapted to the needs of the teacher. *II.; lectures, M., W.; 4; arrange time for laboratory; (5).* Professor DEXTER and Mr. ——

Required: Two years of university work.

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4. GENETIC PSYCHOLOGY.—It is the plan of this course to take up in their natural order the various developmental stages of the human mind from the earliest days of infancy. The more substantial results of child study serve as a basis for the first part of the course, while the latter part is devoted to the phenomena of adolescence, and the intellectual problems confronting the youth. The development of the nervous system and growth of the body are traced in connection with the mental development, and the critical periods of both are given careful attention. The aim of the course is to serve as a basis for pedagogy, and to assist the student in solving, and from the standpoint of psychology, the ethical and social problems of his own life. *I.; Tu., Th.; 2; (2).* Mr. ———.

Required: Two years of university work.

8. PSYCHOLOGICAL SEMINARY.—In this course, for the coming year, the history of psychology will be taken up, beginning with Locke and continuing down through its experimental development, including the recent aspects of the subject. During the latter part of the year periodical literature will serve as the basis of reports. *I., II.; arrange time; (1).* Mr. ——.

Required: Psychology 1.

COURSE FOR GRADUATES

101. RESEARCH COURSE.—Though primarily for graduates, this course may be taken by seniors who give evidence of suitable preparation. If laboratory work, it must be preceded by psychology 1, 2, and 3. For other than a laboratory subject the required preparation will depend upon the subject. It is intended that work in this course shall result in contributions to science.

PUBLIC LAW AND ADMINISTRATION

1. POLITICAL INSTITUTIONS.—Comparative study of modern political systems, their historical development and practical operation. Lectures, assigned readings, reports, and discussions. The first semester is devoted to the leading features of national and state government of the United States; in the second semester the governments of the leading European states are studied. In connection with History 2 this course makes a full study running through the year. (See announcement under History 2.) *I., II.; M., W., F.; 4; (3).* Professor TOOKE.

2. JURISPRUDENCE.—Elementary course in the origin, development, and classification of law, followed by an introduction to the fundamental principles of the English Common Law. *I., II.; Tu., Th.; 3; (2).* Professor TOOKE.

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3. ROMAN LAW.—Early History. The classical jurisprudence. Legislation of Justinian. Influence of the Roman system. Readings and lectures. *I., II.; arrange time; (2).* Professor SCOTT.

4. INTERNATIONAL LAW.—Sources and historical development. Essential powers of states, their rights and obligations. Laws and usage in times of war. *I., II.; Tu., Th.; 4; (2).* Professor SCOTT.

5. COMPARATIVE ADMINISTRATIVE LAW.—General principles of the administration law of the United States, England, France, and Germany. The appointment, tenure, and duties of officers. Historical and comparative study of local government. *I., II.; M., W.; 3; (3).* Professor TOOKE. [Not given in 1901-1902.]

Required: Public Law and Administration 1, 2.

6. COMPARATIVE CONSTITUTIONAL LAW.—A comparative study from original sources of the constitutions of the leading European states. In connection with Law 22, this course counts six semester hours. *I.; M., W.; 3; (2).* Professor TOOKE.

Required: Public Law and Administration 1, 2.

7. LAW OF MUNICIPAL CORPORATIONS.—History and legal status of the American municipality. *II.; M., W.; 2; (2).* Professor TOOKE.

9. SEMINARY IN MUNICIPAL INSTITUTIONS.—Open to graduates and seniors. *I., II.; arrange time; (2).* Professor TOOKE.

RAILWAY ENGINEERING

1. LOCOMOTIVE ENGINES.—This work is a study of the constructive features of the locomotive in all its parts and of their relations. The development, applications, and limitations of the various types and their special study with reference to the relations between boiler and cylinder capacity, weight on drivers, speed, hauling capacity, etc. Tendencies in design. Includes also a study of all accessory apparatus used in the operation of locomotives. *I.; Tu., Th.; 1; (2).* Mr. SCHMIDT.

Required: Theoretical and Applied Mechanics 1; Physics 1, 3; Mechanical Engineering 7.

2. LOCOMOTIVE ENGINE DESIGN.—The proportions and dimensions of standard locomotives are carefully studied. Calculations and designs relating to boiler and engine details, cylinder proportions for compound types of slide, valves and valve gears. *I.; Tu., W., Th.; 6, 7, 8; (3).* Assistant Professor GOODENOUGH.

Required: Mechanical Engineering 1 to 7, 16, 17; Theoretical and Applied Mechanics 1, 2.

3. SHOP SYSTEMS.—Lectures and readings. Visits of inspec-

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tion. A study of the proceedings of the societies and railway clubs and the technical press. *I.; Tu., Th.; 2, 3, 4; (2).* Mr. SCHMIDT.

4. LOCOMOTIVE ROAD TESTS.—Arrangements for locomotive road tests have been perfected with several roads entering Champaign and Urbana. Already five locomotives have been equipped for this work and tests made in actual service conditions. This work is greatly facilitated by the use of the dynamometer and railway test cars which are now at the service of the department. This course includes also brake tests and other laboratory work. *I.; M., F.; (4).* Mr. SCHMIDT.

Required: Theoretical and Applied Mechanics 3; Mechanical Engineering 1 to 7, 14.

5. COMPRESSED AIR IN RAILWAY SERVICE.—This will include a careful study of the construction and operation of the air-brake system in detail. The air-brake instruction cars of the I. C. R. R. and the C. C. C. & St. Louis Ry. make frequent stops at these points, and the instructors in charge kindly devote sufficient time to illustrate and explain the operation of the air-brake.

The use of compressed air in shop service is also studied. *II.; W.; 6, 7, 8; (1).* Mr. SCHMIDT.

Required: Mechanical Engineering 7.

6. RAILWAY ESTIMATES.—A study of costs of materials and repairs. Forms of specifications for supplies. Costs of operation and maintenance of foreign and American practice compared. *II.; Tu.; 2, 3; (1).* Professor BRECKENRIDGE.

Required: Railway Engineering 1 to 4.

7. ADVANCED DESIGNING.—Under this head attention will be paid to details of rolling stock, pumps, gas and oil engines for water supply. Special machinery for repair shop service, turntables, and advanced problems relating to locomotive design. *II.; M., W., Th.; 2, 3, 4; (3).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 3; Railway Engineering 1, 4.

8. DYNAMOMETER CAR TESTS.—Investigations will be made under actual road conditions relating to hauling capacity of engines, train resistance, due to acceleration, grades, curves, and wind pressure. Air-brake service inspections. Automatic records of track conditions as to gauge, surface, joints, and elevation of rails. Tests at stationary plants and railway shops will be made.

Arrangements for careful and scientific sampling of fuels, boiler waters, oils, paints, varnishes, and railway supplies for analysis and tests will be included in this work. *II.; F.; (1).* Mr. SCHMIDT.

Required: Railway Engineering 4.

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RHETORIC AND ORATORY

1. RHETORIC AND THEMES.—Required for students in the College of Literature and Arts. One two-page theme a week criticised by the class and by the instructor. Weekly report on assigned reading. Cairns' Forms of Discourse. *I, II.; M., W., F.; section A, 1; section B, 2; section C, 3; (3).* Miss KYLE and Mr. GRAHAM.

2. RHETORIC AND THEMES.—Required for students in the Colleges of Agriculture, Science, and Engineering. One two-page theme a week, with an occasional four-page theme, criticised by the class and by the instructor. Weekly report on assigned reading. Cairn's Forms of Discourse. *I.; M., W., F.; sections A, B, C, 2; section D, 3; sections E, F, 7; section G, 8. II.; M., W., F.; sections A, B, C, 2; sections D, E, F, 7; section G, 8; (3).* Miss KYLE, Mr. GRAHAM, and Mr. ADAMS.

3. ENGLISH COMPOSITION.—Daily themes one page in length with exercises not to exceed four pages in length every fortnight. All written work is criticised by the instructor, and, if necessary, is required to be rewritten. Wendell's English Composition. *I., II.; M., W., F.; section A, 3; section B, 4; (5).* Professor T. A. CLARK.

Required: Rhetoric and Oratory 1 or 2.

4a. ARGUMENTATIVE COMPOSITION.—Lectures on the principles of argumentation. Practice in the preparation of briefs and forensics. During the semester each student will write two briefs and two forensics, which are intended to illustrate the importance of analysis, evidence, constructive argument, refutation, and persuasion. *Baker's Principles of Argumentation. I.; M., W., F.; 4; (3).* Mr. ADAMS.

Required: Rhetoric and Oratory 1 or 2.

4b. EXPOSITION.—Practice in the preparation of formal addresses; study and analysis of modern orations with the object of understanding their general structure; criticism and suggestion regarding sequence, emphasis, climax, and illustration. *II.; M., W., F.; 4; (3).* Mr ADAMS.

Required: Rhetoric and Oratory 1 or 2.

5. ORAL DISCUSSION.—Weekly debates on economic and political subjects, preceded by briefs; criticism of form, delivery, and subject-matter. Adapted to the needs of students who have had experience in debating. *I., II.; Th.; 8, 9; (2).* Mr. ADAMS.

Required: Rhetoric and Oratory 1 or 2.

6a. ENGLISH COMPOSITION (Advanced Course).—Two three-

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page exercises a week and four long themes a semester. Written criticism of themes by both students and instructor; all long themes to be rewritten after criticism. Bates's Talks on Writing English. *I.; M., W., F.; 2; (3).* Professor T. A. CLARK.

Required: Rhetoric and Oratory 1 and 3.

6b. ENGLISH COMPOSITION AND LITERATURE. The study of rhetorical principles, as seen in literary masterpieces. Rhetorical analysis of the essays of Swift, Lamb, Newman, Arnold, and others. Two three-page themes a week and one long exercise a semester. *II.; M., W. F.; 2;* (3). Professor T. A. CLARK.

Required: Rhetoric and Oratory 1 and 3.

7a. PUBLIC SPEAKING.—A course for practical training in public speaking, beginning with the recitation of simple narrative and descriptive selections and proceeding with more difficult extracts from orations, according to individual ability. The object is to secure naturalness in form and directness in delivery. Criticism and instruction regarding position, enunciation, volume, inflection, and gesture. *The number admitted to this course is limited to thirty-six. I.; sections on M., Tu., and F.; 7; (1).* Mr. ADAMS.

7b. PUBLIC SPEAKING.—Same as Rhetoric and Oratory 7a, beginning with the second semester. This course is not open to those who have taken Rhetoric and Oratory 7a. *II.; section A, M; section B, Tu.; section C, F; 7; (1).* Mr. ADAMS.

8. SEMINARY.—Methods of teaching English Composition. Open to senior and graduate students. *I. or II.; W.; arrange time; (1).* Professor T. A. CLARK.

SOCIOLOGY

[See under Anthropology and Economics, pp. 187, 216.]

SPANISH

1. GRAMMAR AND READING.—Edgren's Spanish Grammar; Knapp's Spanish Readings; Cervantes' Don Quixote; outlines of Spanish literature. *I., II.; M., W., F.; arrange time; (3).* Professor FAIRFIELD.

THEORETICAL AND APPLIED MECHANICS

[See Mechanics, p. 255.]

VETERINARY SCIENCE

1. ANATOMY AND PHYSIOLOGY.—The anatomy and physiology of the domestic animals, diseases of the bony structure and lameness.

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The instruction is given by lectures aided by demonstrations with use of skeletons, and of other apparatus, as follows: Dr. Auzoux's complete model of the horse, which is in ninety-seven pieces and exhibits three thousand details of structure; *papier-maché* model of the horse's foot; the teeth of the horse; and dissections of animals. This work is supplemented with the study of text-books. Strangeway's Veterinary Anatomy, Mills's Animal Physiology, and Diseases of Horses and Cattle. *I.; daily; 3; (5).* Professor McIntosh.

2. Veterinary Materia Medica.—This subject, which treats of the agents for the cure of disease or injury, and for the preservation of health among domestic animals, is taught by lectures and text-books, illustrated by specimens of the drugs used in veterinary practice. The compounding of medicines also receives attention. Text-book, Finlay Dun's Veterinary Materia Medica. *I., II.; daily; 2; (5).* Professor McIntosh.

3. Theory and Practice of Veterinary Medicine and Surgery.—This subject is taught by lectures and text-books on the diseases of domestic animals, and is illustrated with specimens of morbid anatomy and by observations and practice at the free clinics. The latter are held at the Veterinary Infirmary once a week. The students assist in the operations, and thus obtain a practical knowledge of the subject. Dissections and *post-mortem* examinations are made as cases present themselves. Text-books, Diseases of Horses and Cattle, by D. McIntosh, and Williams's Practice of Veterinary Medicine and Surgery. *I. or II.; daily; 4; (5).* Professor McIntosh.

4. Minor.—The principal diseases of domestic animals, their symptoms and treatment. *II.; first half; daily; 3; (2½).* Professor McIntosh.

[Clinic on Wednesday for all courses.]

ZOÖLOGY

1. General Invertebrate Zoölogy.—This course is arranged with special reference to teachers of zoölogy and to students who intend to take either a general or a special course of some length in this subject or in entomology. Following upon zoölogy 10, it extends somewhat the series of type forms presented under that head, and lays the foundation for a knowledge of animal development. It is largely given, however, to a study of the invertebrate animals commonly found in Illinois, with special attention to their distribution, their habits, and their life histories, and to the adaptive structures

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which exhibit or determine their relations to their environment. Field work and its methods are included in the course, and the organization of its instruction is such as to permit some diversity in the work of different students. *II.; lecture, M., W., F.; 2; laboratory, 7 periods; arrange time; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

Required: Art and Design 1; an entrance credit in chemistry or Chemistry 1, Zoölogy 10 or Entomology 1.

2. VERTEBRATE ZOÖLOGY AND COMPARATIVE ANATOMY.—In the laboratory work of this course principal attention will be given to the anatomy of Necturus and to anatomical and systematic studies of fishes, birds, and mammals, especial reference being had to the anatomy of man. The more difficult parts of laboratory technology will be given in this course, which will also contain lectures on the general theory of organic development as illustrated by the doctrine of the descent of man. *I.; daily; lecture, Tu., Th.; 4; laboratory, 8 periods; arrange time; (5).* Assistant Professor SMITH.

Required: The same as for Zoölogy 1.

3. VERTEBRATE EMBRYOLOGY.—This course begins with a study of the sex cells and a discussion of theories of heredity, followed by a consideration of the early stages in the development of the egg. The formation of the vertebrate body is then studied in the amphibian, the chick, and the pig. Instruction is given in the preparation of embryological material and in graphic reconstruction from serial sections. *II.; daily; 4, 5; (5).* Mr. MCCLELLAN.

Required: Zoölogy 2.

4. ADVANCED ZOÖLOGY.—Under this head is offered an opportunity for individual advanced work for one or two semesters along lines to be selected in consultation with the instructor. It may include field and systematic zoölogy, or a laboratory course in mammalian anatomy, but is otherwise essentially a research course for students specializing in zoölogy. One semester of this course will be required of all intending to graduate with a zoölogical thesis. If five or more students offer for the same work under this head they will receive class instruction, but otherwise students in this course will commonly be assembled as a class only for seminary work. From those taking this course selection of student assistants for the zoölogical laboratories will commonly be made, credit being given on the course for such assistance according to the recommendation of the head of the department, subject to the approval of the college faculty. *I., II.; arrange time; (5).* Assistant Professor SMITH.

Required: Zoölogy 1, 2.

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5. ELEMETARY ENTOMOLOGY.—(See Entomology 1.)

6. GENERAL ENTOMOLOGY.—(See Entomology 2, 3.)

7. PRACTICAL ENTOMOLOGY.—(See Entomology 4.)

8. THESIS INVESTIGATION.—Candidates for graduation in the College of Science who select a zoölogical subject as a thesis are required to spend three hours a day during their senior year in making an investigation of some selected zoölogical subject. While this work is done under the general supervision of an instructor, it is in its methods and responsibilities essentially original work. *I., II.; daily; arrange time; (5).* Professor FORBES and Assistant Professor SMITH.

Required: Two years in zoölogical courses, including one semester of Zoölogy 4.

9. TEACHERS' COURSE IN ZOÖLOGY.—This course is offered especially to prospective teachers of zoölogy in high schools or colleges. It will include a review of such parts of their earlier work as are most closely related to their prospective teaching, the subject being studied now from the standpoint of the teacher rather than that of the student merely. Additional work in the field, laboratory, and library will be given to enlarge the scope of the student's knowledge and to give practice in methods most likely to be useful to him. The management of excursions, the collection and preparation of material, the selection, assignment, and management of subjects for individual study, and the determination and study of the animal forms of a restricted locality, are examples of this work. High school courses of zoölogical study will be collected, compared, and criticised, and methods of management and instruction in secondary schools will be compared and discussed with reference to general pedagogical theory and to the special ends of the teacher of zoölogy. The work will be arranged in consultation with the educational department of the University, and the professors of that department will share in it as may seem necessary. Those taking this course will be given the preference, other things being equal, in selecting student assistants in zoölogy and in recommending teachers for secondary schools. Those taking the lectures only will receive a three-hour credit; those taking the field and laboratory work without the lectures will receive a two-hour credit. *II.; daily; 6, 7; (5).* Professor FORBES.

Required: Zoölogy 1; also Zoölogy 2, or Entomology 2, or Entomology 3.

10. ELEMENTARY ZOÖLOGY—This is a field, laboratory, and lecture course, mainly on the morphology, physiology, and oecology of

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type forms, and on the more obvious features of cytology and development. The work is so directed as to lead to an acquaintance with the simpler generalizations of zoölogical theory, and is intended especially as a preparation for the more extensive and thorough work of courses 1 and 2. It is also adapted to the needs of those who wish to give no more than a semester to a zoölogical course. Students who present an entrance credit in zoölogy or biology may take as a fractional course those parts of this work not covered in their previous study. *I.; daily; 1, 2; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

COURSES FOR GRADUATES

101. PLANKTON ZOÖLOGY.—Under this head instruction and practice will be given in modern methods of studying minute forms of aquatic life with the aid of a plankton apparatus and laboratory equipment. This work will include both a qualitative and a quantitative investigation of the minute zoölogical contents of a selected body of water, carried on systematically through a considerable period, and the generalization of the results of such study by the methods peculiar to the planktologist.

102. FRESH-WATER ICHTHYOLOGY.—The large collections of fishes belonging to the University and the State Laboratory of Natural History, together with the ichthyological library of the latter, will be open to students who wish to become acquainted with the ichthyology of a fresh-water situation. Both qualitative and quantitative studies of the fishes of a selected body of water will be made, and papers will be written presenting the results of personal studies in this field.

103. FRESH-WATER AND TERRESTRIAL ANNALIDS.—This is an application of the methods of the zoölogical laboratory to the study of the annelid worms of the land and of the inland waters of North America. The description of genera and species, practice in drawing for publication, and experimental work on the physiology and oecology of selected forms will be included in this course.

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DEGREES

BACHELORS' DEGREES

The usual bachelors' degrees are conferred upon those who satisfactorily complete the courses of study described under the different colleges and schools. A candidate for a bachelor's degree must pass in the subjects marked *prescribed* in his chosen course, and must conform to the directions given in connection with that course in regard to electives. In the College of Literature and Arts, of Science, and of Agriculture, credit for 130 hours is required for graduation. In the College of Engineering, in the College of Law, and in the Schools of Music and Library Science the candidate must complete the course of study as laid down. The number of hours required includes five in military science, and two and one-half in physical training for men, and three in physical training for women. Men excused from the military requirements, and women who do not take courses in physical training, must elect in lieu thereof an equivalent number of hours in other subjects.

In all cases in which a thesis is required,* the subject must be announced not later than the first Monday in November, and the completed thesis must be submitted to the dean of the proper college by June 1st. The work must be done under the direction of the professor in whose department the subject naturally belongs, and must be in the line of the course of study for which a degree is expected. The thesis must be presented upon regulation paper, and will be deposited in the library of the University.

*See requirements for graduation in the different colleges.

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1. The degree of Bachelor of Arts is conferred on those who complete a course in the College of Literature and Arts.

2. The degree of Bachelor of Science is conferred on those who complete a course in the College of Engineering, of Science, or of Agriculture. The name of the course will be inserted in the diploma.

3. The degree of Bachelor of Laws is conferred on those who complete the course in the College of Law.

4. The degree of Doctor of Medicine is conferred on those who complete the course in the College of Medicine.

5. The degree of Bachelor of Library Science is conferred on those who complete the course in the School of Library Science.

6. The degree of Bachelor of Music is conferred on those who complete one of the courses in the School of Music.

7. The degree of Graduate in Pharmacy is conferred on those who have satisfied the requirements therefor in the School of Pharmacy.

ADVANCED DEGREES

No degrees are given for study *in absentia*, except that graduates of this University, who become members of the Graduate School and reside elsewhere, may receive a second, or master's, degree, upon the completion of their courses of study within not less than three years of the date of registration. For a graduate of this University, who has won recognized distinction in a special line of investigation, and who otherwise fulfills the conditions for a doctor's degree, the requirement of residence for that degree will be such as may be imposed by the General Faculty of the University, on presentation of the case by the Council of Administration. Advanced degrees are conferred by the Trustees of the University only upon recommendation of the General Faculty, based upon information furnished by the Council of Administration.

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SECOND DEGREES

The second degrees conferred by this University are as follows:

Master of Arts, after Bachelor of Arts.

Master of Science, after Bachelor of Science in courses of the colleges of Agriculture and Science.

Master of Architecture, after Bachelor of Science in courses in Architecture and Architectural Engineering.

Civil Engineer, after Bachelor of Science in the course in Civil Engineering.

Electrical Engineer, after Bachelor of Science in the course in Electrical Engineering.

Mechanical Engineer, after Bachelor of Science in the course in Mechanical Engineering.

Pharmaceutical Chemist, after Graduate in Pharmacy.

Graduates of other colleges and universities which have equivalent requirements for baccalaureate degrees may be given second degrees determined in kind by comparison with the usage described above.

All candidates for second degrees are required to register in the Graduate School; to conform to the conditions outlined under "Admission," "Registration," and "Examinations" (pp. 42 and 58); to pursue an approved course of study for one academic year in residence, or, in the case of graduates of this University, for three years *in absentia;* and to pass satisfactory examinations upon all the studies of the approved course.

Each candidate for a second degree must present an acceptable thesis in the line of his major subject of study. The subject of this thesis must be announced to the Dean of the General Faculty not later than the first Monday in November of the academic year in which the course is to be completed. The completed thesis, upon regulation paper, must be presented, with the certified approval of the professor in charge, to the Council of Administration not later than June 1st.

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The period of required study begins from the date of registration in the Graduate School.

DOCTOR'S DEGREE

The degree of Doctor of Philosophy may be conferred upon any member of the Graduate School of not less than three years' standing who shall have reached high attainments in scholarship, including a sufficient knowledge of the Latin, French, and German languages to serve the purposes of research in his principal specialty, who shall have shown marked ability in some line of literary or scientific investigation, and shall have presented a thesis giving clear indications of such scholarship and of such power of research. At least the first two, or the last one, of the three years of study must be in residence at the University, and the entire course of study must be in accordance with the regulations of the Graduate School.

The time and study required for a master's degree may be included in the three years required, but approval of a course of study for a doctor's degree must be upon the condition that the candidate is prepared through his baccalaureate work, or otherwise, to enter at once upon advanced studies in the line of his major subject, and that work on this major subject be continued through the three years.

The final examination of a candidate for the doctor's degree is conducted by a committee consisting of the head of the department under which the major subject has been pursued, as chairman, and of not less than two additional members of the General Faculty of the University, appointed for the purpose by the Council of Administration. This examination covers the subjects of the course approved for the degree, but is specially searching upon that on which the major work has been done. This examination occurs in the week preceding that upon which commencement day occurs.

Each candidate for a doctor's degree must announce to the Dean of the General Faculty a thesis subject not later

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than the first Monday in November of the academic year at the close of which the award of the degree is expected. A fair copy of the thesis must be submitted, with a certified approval of the committee on examinations, to the Council of Administration not later than the first day of June. If the thesis is approved by the Council the candidate must have it printed and must deposit not less than one hundred copies with the librarian of the University.

FELLOWSHIPS

The Trustees of the University have established eight fellowships, each with a stipend of three hundred dollars, payable in ten monthly installments.

The rules governing appointments to these fellowships are as follows:

1. The purpose of these fellowships shall be to promote advanced scholarship and original research in the University.

2. The fellowships shall be open to graduates of this and similar institutions. Those who are to complete an under-graduate course previous to the academic year for which appointments are made shall be eligible, with others, as candidates.

3. Nominations to fellowships, accompanied by assignments to special departments of the University for instructional work, shall be made by the Council of Administration to the Trustees of the University, upon applications received by the President of the University each year, not later than the *twenty-fifth day of April.* These nominations shall be made at a meeting of the Council called for that purpose within the month of May. The appointments by the Trustees are made at their regular meeting in June, and shall take effect the first day of the following September. Vacancies may be filled by similar nominations and appointments at other times.

4. Nominations to fellowships shall be made upon the

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grounds of worthiness of character, scholastic attainments, and promise of success in the principal line of study or research to which the candidate proposes to devote himself. Consideration shall also be given to the probable value or usefulness of the services of the candidate as an assistant in instruction, but this shall not be deemed the primary object of the appointment. Other things being equal, preference shall be given to those graduates of this University who have pursued a specialized course.*

5. Candidates must present, with their applications, full information concerning themselves and their qualifications for advanced study and research work, including any written or printed essays or results of investigation, and must name the subject in which they wish to do their major work.

6. Fellowships shall be good for one year. Appointments may not usually be renewed to the same persons, and in no case for more than one additional year; but an appointment as *honorary fellow,* without stipend, may be made as specified for paid fellowships in the case of anyone who has held a regular fellowship and has shown distinguished merit in his work.

7. Fellows shall be constituted members of the Graduate School, shall have all of the privileges and bear all of the responsibilities of such membership. Each regular fellow may be called upon to render service in instruction throughout the year in the department in which his major subject lies, equal to one hour daily of class instruction or to two hours daily of laboratory supervision. This service will receive such credit as the Council of Administration may determine in each case. Blank forms for application may be obtained by addressing the Registrar.

*See pp. 67, 117. All members of the College of Engineering and of Agriculture, of the chemical and mathematical groups in the College of Science, of the College of Law, and of the Schools of Library Science and Music, are considered as pursuing specialized courses.

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SCHOLARSHIPS

STATE

A law passed by the General Assembly of the State of Illinois at the session of 1895 provides that there may be awarded annually to each county of the state one state scholarship and one additional scholarship for each senatorial district in excess of one in any county. The holder thereof must be a resident of the senatorial district to which he is accredited, and is entitled to free tuition in other than the preparatory and professional schools of the University.

A competitive examination under the direction of the Superintendent of Public Instruction shall be held at the county courthouse in each county of the state upon the first Saturday of June in each and every year by the county superintendent of schools upon such branches of study as said Superintendent of Public Instruction and the President of said University may deem best.

Questions for such examinations shall be prepared and furnished by the President of the University to the Superintendent of Public Instruction, who shall attend to the printing and distribution thereof to the several county superintendents of schools prior to such examinations.

The law also provides that in case the scholarship in any county is not claimed by a resident of that county, the Superintendent of Public Instruction may fill the same by appointing some candidate first entitled to a vacancy in some other county.

Candidates to be eligible to a state scholarship must be at least sixteen years of age, and must have been residents of their respective counties for the year preceding the examination.

A student holding a state scholarship who shall make it appear to the satisfaction of the President of the University that he requires leave of absence for the purpose of earning funds to defray his expenses while in attendance, may, in the discretion of the President, be granted such a leave of ab-

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sence, and may be allowed a period not exceeding six years from the commencement thereof for the completion of his course at said University.

The examinations will be held June 1, 1901, and June 7, 1902.

For particulars about them write to Hon. Alfred Bayliss, Superintendent of Public Instruction, Springfield, or to W. L. Pillsbury, Registrar, Urbana.

Any person, whether a candidate for a scholarship or not, may be examined for admission to the University at these state scholarship examinations.

SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE

The University will receive into the College of Agriculture annually one student from each county, outside of Cook County, and one from each of the first seven congressional districts of the state, upon the recommendation of the executive committee of the Illinois Farmers' Institute; matriculation and incidental fees are remitted to the holders of such scholarships; the benefits of the same are good for two years; and special students are eligible therefor: *Provided,* that the persons so recommended shall not have been previously in the University and shall comply with all the conditions of admission to the College of Agriculture.

Should there be more than one candidate from a county or congressional district, one of them shall receive the scholarship of his county or district and the other or others may be assigned to vacancies which may exist in other counties or congressional districts, as is customary with state scholarships.

MILITARY

Students who have gained 4 hours in class room military instruction and 4 in drill practice, are eligible for appointment as commissioned officers of the battalion. Those attaining this rank may be awarded special scholarships, good for one year, and equal in value to the University term fees for the same length of time.

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PRIZES

THE HAZLETON PRIZE MEDAL

Capt. W. C. Hazleton provided in 1890 a medal, of beautiful and artistic design, which is to be awarded, at a competitive drill to be held near the close of the year, to the best drilled student. Each competitor must have been in attendance at the University at least sixteen weeks of the current college year; must not have had more than four unexcused absences from drill; and must present himself for competition in full uniform.

The award is made for excellence in these particulars:

1. Erectness of carriage, military appearance, and neatness.
2. Execution of the school of the soldier, without arms.
3. Manual of arms, with and without numbers.

The successful competitor will receive a certificate setting forth the facts, and may wear the medal until the 15th day of May following, when it will be returned for the next competition.

INTERSCHOLASTIC ORATORICAL CONTEST

A medal of the value of twenty dollars is offered annually by the University to the high schools of the state for the best oration delivered in a competitive contest between their representatives. This contest takes place in the spring at the time of the interscholastic athletic meet.

THE BRYAN PRIZE

In 1898 Mr. William Jennings Bryan gave to the University two hundred and fifty dollars. From the interest of this sum a prize of twenty-five dollars is biennially offered for the best essay on the science of government. The contest is open to all matriculated undergraduate students. The essays may not be less than three thousand, nor more than six thousand, words in length, and must be left at the President's office not later than the second Wednesday in

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May. The prize will be offered for the first time in 1901. It is suggested that for this year the essays be upon some phase of modern colonial government.

BENEFICIARY AID

EDWARD SNYDER DEPARTMENT OF STUDENTS' AID

In 1899 Professor Edward Snyder, Professor of the German language and literature, *emeritus*, gave to the University the sum of $12,000, to be loaned to worthy students to enable them to finish their courses in the University.

This fund is, by action of the Trustees, available to junior, senior, and graduate students who need aid to remain and complete their work. The minimum loan made will be fifty dollars ($50), and the maximum will be one hundred and fifty dollars ($150) to a junior and two hundred dollars ($200) to a senior or graduate student. Notes of hand are taken for the amount of the loans, with 5 per cent. interest. The maximum time limit is three years for juniors, and two years from the ensuing thirtieth day of July for seniors and graduates.

Applications for loans will be passed upon by the Council of Administration and approved by the Finance Committee of the Board of Trustees of the University.

TO WHOM LOANS MAY BE MADE

Loans will be made to matriculated students only who have attained at least the rank of full juniors, who have been in residence at this University at least one year, who are at the time students in residence at this University, and who have declared their intention to graduate.

In recommending loans preference shall be given to those students who are farthest along in their University work and who have shown themselves most assiduous and successful in their studies, and who have shown habitual economy in life.

No distinction shall be made among students on account of sex or as to course of study.

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A loan will not be recommended for any student who is believed to have been financially or morally delinquent in any respect.

Information given by applicants will be considered confidential on the part of the University authorities.

Applications for loans must be addressed to

THE PRESIDENT OF THE UNIVERSITY,
Urbana, or Champaign, Illinois.

CLASS OF 1895 LOAN FUND

This is a fund of $250.00, established by the class of 1895, to be loaned to needy and deserving students. According to the conditions of the gift, one-fifth of the amount is to be loaned annually, and is open to members of the freshman class only. No person may receive the benefit of the fund more than four years. The loan bears interest at the legal rate from the time the recipient leaves the University, and is due, one-half in five years, and one-half in six years, after matriculation. The management of the fund is in charge of the Council of Administration.

SOCIETIES AND CLUBS

LITERARY SOCIETIES

The ADELPHIC and PHILOMATHEAN societies for men, and the ALETHENAI for women, occupy large halls, which the members have appropriately furnished and decorated. Meetings are held Friday evenings throughout term time.

THE CHRISTIAN ASSOCIATIONS

The YOUNG MEN'S and the YOUNG WOMEN'S CHRISTIAN ASSOCIATIONS are active and useful organizations, and have a large membership.

Subscriptions have been made by students and graduates, amounting to $23,000.00, toward a new building for these organizations. At present the associations occupy a commodious house, admirably located near the main University buildings.

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CLUBS AUXILIARY TO COURSES OF STUDY

AGRICULTURAL CLUB

This club meets weekly. It is devoted to the discussion of topics of theoretical and practical interest to students of agriculture. All students connected with the University are eligible to membership.

ARCHITECTS' CLUB

This club meets once in two weeks for the consideration of current topics of architectural interest and subjects connected with the study of architectural history. All students pursuing architectural studies are eligible to membership. This club is a member of the Architectural League of America, and contributes to its annual exhibition in the principal cities of the United States.

CIVIL ENGINEERING CLUB

This club meets the second and fourth Saturday evenings of each month for the reading and discussion of papers relating to civil engineering. All students pursuing the civil engineering course may become members.

THE ENGLISH CLUB

The English Club is composed of members of the Faculty, and of students who have done especially good work in English. The work of the club is confined to the study of recent writers of fiction and of poetry. The membership is limited to thirty. Meetings are held on the second Monday of each month.

FRENCH CLUB

Le Cercle Français includes students who have had at least one year's work in French. The club meets once a month throughout the year. Its proceedings are conducted in French, the object being to supplement the work of the class room by the practical handling and understanding of the language.

LIBRARY CLUB

The instructors and students of the Library School have organized a Library Club. Any member of the staff of the

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University library, of the Champaign public library, or of the Urbana public library, or any student who is registered for the Library School may become an active member. Trustees of the three libraries before mentioned are considered honorary members. Any others interested in library progress may become associate members.

Meetings are held once in three weeks during the college year. The first and last meetings of the year are of a social nature. The intervening meetings are devoted to topics of literary or technical library interest.

MECHANICAL AND ELECTRICAL ENGINEERING SOCIETY

This club meets on the second and fourth Friday evenings of each month. All students pursuing mechanical and electrical engineering studies are eligible to membership. Papers relating to subjects of interest to members are presented and discussed at each meeting.

MUSICAL CLUBS

These are described under the School of Music (p. 162.)

THE NATURAL HISTORY SOCIETY

This society is composed of instructors and students interested in the natural sciences. It conducts field excursions and exhibitions of objects of natural history, and provides occasional lectures on science subjects of general interest.

THE SCANDINAVIAN CLUB

The Scandinavian Club (Skandinaviske Samund) was organized in the spring of 1900 for the purpose of bringing together all men students having a knowledge of at least one of the Scandinavian languages. Meetings are held during the academic year, at which subjects connected with the northern countries, especially with their literatures, are discussed.

ZOÖLOGICAL CLUB

The University Zoölogical Club is composed of advanced students and instructors in the zoölogical and physiological departments, together with such other biological instructors

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and advanced students as are interested in its subjects. Its sessions are devoted to the presentation and discussion of abstracts of recent biological literature and of the results of investigation by the members of the club. It meets weekly in Natural History Hall.

MILITARY SCIENCE.

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of officers of the line. A full supply of arms and ammunition is furnished by the War Department, including 400 cadet rifles and accoutrements and two field pieces of artillery.

Every male student able to peform military duty, and not excused for sufficient cause, is required to drill twice each week until he has gained credit for 4 semester hours. He is also required to study Drill Regulations for Infantry and to recite upon the same once a week until he gains credit for one semester hour. The practical instruction begins as soon as possible after he enters the University. A preparatory student carrying no freshman studies and not expecting to matriculate during the year is not permitted to drill. The standings in study and drill are placed on record, with other class credits; one semester of recitations and drill count two hours, and the three remaining semesters of drill three hours, and are requisite to graduation in every University course.

Appointments in the regiment are made on nomination by the officer in charge and confirmation by the Faculty.

The regiment (two battalions of three companies each) is composed mainly of the members of the freshman and sophomore classes. The non-commissioned officers are selected from the sophomore class, the lieutenants from the junior class, and the field officers and captains from the senior class.

A special military scholarship, good for one year, is open

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to each student who attains the grade of a commissioned officer, the value of which is paid the holder at the close of the year.

An artillery detachment is organized mainly from the second year, or sophomore, class, which receives practical instruction twice each week during the college year.

Toward the close of the year a committee appointed by the Faculty examines candidates for nomination to the Governor of the state to receive commissions as brevet captains in the state militia. Candidates must be members of the senior class in full standing at the time of this examination; must have completed the course of military studies; must have served two semesters as captains or lieutenants, and must be approved by the Faculty as having good reputations as scholars, officers, and gentlemen.

The Trustees have prescribed a uniform of cadet gray, coat trimmed with black mohair braid, trousers with black cloth stripe, cut after the U. S. army pattern.

In order that all uniforms worn at this University may be, in quality, make, and finish in strict accordance with the specifications adopted by the Board of Trustees, all students enrolled in the military department will be required to obtain them from that firm only that may, for the time being, be under agreement and bond with the Trustees to furnish said uniforms at a stated price and of standard quality.

The University Military Band is composed of students, and every full term of service therein is counted as one term of drill.

PHYSICAL TRAINING

FOR MEN

The main object of the work of this department is to preserve the bodily health of the students by careful physical examinations, and rational prescriptions of exercises; by correcting physical deformities, and imperfect development; by teaching proper methods of living; and by encouraging proper intercollegiate sports.

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Each student is required to undergo a physical examination so that a correct knowledge of his bodily condition may be obtained, and proper exercises prescribed. Regular classes are formed for drill on the various gymnasium appliances. Lectures are given upon personal hygiene.

All competitive athletic games are under the direct supervision of the professor of physical training, and his medical examination is required to show that membership on any team will tend to improve the physical condition, and not cause injury.

Two courses are offered to those who wish to prepare as instructors of physical training or coaches of athletic teams.

FOR WOMEN

The general health and development of all young women in this department are carefully looked after by the director of the Women's Gymnasium. Each one is given a physical examination, in order that her physical condition may be known, suitable exercise prescribed, and advice given.

Systematic class drill is given in Swedish, Delsarte, and American gymnastics, including free and light exercises; dumb-bells, clubs, wands, marching, fancy steps, Maypole games, basket-ball, military drill, and, if advisable, exercise on the various pieces of gymnasium apparatus. The gymnasium uniform consists of navy blue serge blouse and divided skirt, and black slippers.

Throughout the fall and spring outdoor games and exercises receive considerable attention. Lectures and talks on hygiene, physical training, etc., are given during the winter.

Each student comes under the personal observation of the director and is given exercises to meet her special needs.

Every woman student not physically disqualified must take the *prescribed* work, and may elect enough to make seven hours of credit.

The women's gymnasium occupies very attractive quarters in Natural History Hall, and is well equipped. The

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pastime grounds near by, in use through the year, when the weather permits, have a sixteen-lap running track, eight tennis courts, two basket-ball fields, and space for hurdling, handball, and other suitable amusements.

The gymnasium is open for exercise, at certain hours, under suitable restrictions, to those who are not enrolled in classes.

HOSPITAL ASSOCIATION

The Hospital Association is an organization of students to provide a fund for hospital care in case of sickness. The members of the association pay a fee of fifty cents each semester and the fund thus raised is used to pay the hospital expenses of members who may need such care. The fund is under the control of a committee of the Faculty, and during the last three years the association has rendered valuable aid to a considerable number of members. Students are strongly advised to join the association.

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EXPENSES

BOARD

The University does not furnish board, but there is a dining hall in the basement of University Hall, and under University supervision, where good meals may be obtained at reasonable rates. There are, also, a large number of suitable private places in Urbana and Champaign, within walking distance of the University, and easily accessible by electric railway, where students can obtain table board and rooms. There are several students' clubs at which the cost of meals is about two dollars and seventy-five cents a week.

The Business Manager and the Young Men's and Young Women's Christian Associations of the University will aid new students in procuring rooms and boarding places.

FEES

Technological, Scientific, Agricultural, and Literary Departments.

MATRICULATION FEE. Each student not holding a scholarship, upon satisfying the requirements for admission to the University, pays the matriculation fee of..... $10 00

THE DIPLOMA FEE, payable before graduation, is..... 5 00

THE INCIDENTAL FEE. All students, except those in the Graduate School, not taking studies which do not count for a second degree, and except those holding scholarships, pay, each semester, an incidental fee of..... 12 00

TUITION FEE. Students "conditioned" on entrance requirements, "special" students (see p. 57), except special students holding scholarships, pay, each semester, a tuition fee of..... 7 50

LABORATORY FEES AND DEPOSITS. Each student working in laboratories, or in the drafting or engineering classes, is required to make a deposit varying from 50 cents to $10.00, to pay for chemicals and apparatus used, and for any breakages or damages.

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Music Department

Students who are candidates for a degree in the music department pay the matriculation fee of..... $10 00
Students in the music department taking studies in other departments of the University pay the "incidental" fee each semester..... 12 00
They also, if not matriculated, pay, each semester, the tuition fee of 7 50

Students not enrolled in other departments, and so not paying the "incidental" fee, pay special music fees as follows:

Piano, organ, or voice, two lessons a week, each semester.. $32 50
Same, one lesson a week..... 19 50
Violin or other stringed instrument, two lessons a week, each semester 26 50
Same, one lesson a week..... 14 50
These students may enter classes in Physical Training (see p. 294 on paying, each semester..... 5 00

Students regularly enrolled and paying the "incidental" fee in other departments pay music fees as follows:

Piano, organ, or voice, two lessons a week, each semester.. $25 00
Same, one lesson a week..... 15 00
Violin or other stringed instrument, two lessons a week.... 19 00
Same, one lesson a week..... 10 50
All students in harmony, counterpoint, fugue, etc., in classes not to exceed four, pay, each semester..... 9 00

No deduction is made on account of absence in any course, except in case of protracted illness.

Students can rent pianos for practice by applying to the head of the music department.

After September, 1901, *matriculated students, residents of Illinois,* will not be required to pay extra fees for instruction in music.

College of Law

Students of the College of Law, upon satisfying the requirements for admission, pay the matriculation fee of..... $10 00
Tuition fee, each semester..... 25 00
Students conditioned on entrance requirements pay, each semester, an additional fee of..... 7 50

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College of Medicine

Matriculation fee, paid each year	$ 5 00
General ticket, each term	55 00
Laboratory deposit (for material and breakages, balance returned)	10 00
Maternity hospital fee, payable once during senior year	10 00

School of Pharmacy

Tuition fee, each year	$75 00
Laboratory deposit, each year	5 00

Preparatory School

All pupils in the Preparatory School pay, each semester, an "incidental" fee of	12 00
Also a tuition fee of	7 50

ALL BILLS due the University *must be paid within ten days after the student enters classes.*

NECESSARY EXPENSES

The following are, for students attending at Urbana, estimated average annual expenses, exclusive of books, clothing, railroad fare, laboratory fees, if any, and small miscellaneous needs:

*Semester fees	$24 00	to	$24 00
Room rent for each student (two in room)	23 00	"	50 00
Table board in boarding houses and clubs	90 00	"	126 00
Fuel and Light	10 00	"	15 00
Washing	12 00	"	18 00
Total	$159 00	to	$233 00
Board and room in private houses, per week	4 00	"	6 00

CAUTION TO PARENTS—STUDENTS' FUNDS

The Business Manager will receive on deposit any funds parents may entrust to him to meet the expenses of their sons and daughters. No greater error can be committed than to send young people from home with large amounts of spending money, and without the authoritative care of some prudent friend. Half the dissipation in colleges springs from excessive allowances of money.

*Students of law and music, and pupils of the Preparatory School, must make needed changes in the amount given for "Semester fees."

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PREPARATORY SCHOOL

INSTRUCTORS

EDWARD G. HOWE, B.S., Principal, Natural Science.
LILLIE ADELLE CLENDENIN, English.
CLARENCE W. ALVORD, A.B., History.
JAMES W. BUCHANAN, Geometry and Physics.
JOHN E. MILLER, A.B., Greek and Latin.
LEWIS A. ROBINSON, A.B., Algebra.

This school is for young men and women whose home schools do meet the entrance requirements of the University; or who, on account of advanced age or prolonged absence from school, are out of touch with the high school. It prepares its pupils for admission to the freshman class of the University. (See p. 42.)

ADMISSION

Candidates for admission must be at least fifteen years of age. Those of age may enter such classes as they are prepared for without examination. All under twenty-one years of age, except those coming from accredited schools (see p. 42), must pass a satisfactory examination in the following subjects:

1. ARITHMETIC.—A thorough knowledge is required of fundamental operations, simple and denominate numbers, the metric system of weights and measures, common and decimal fractions, practical measurements, percentage, ratio and proportion.

2. ENGLISH.—The examination is intended to test the student's vocabulary, and his knowledge of grammar.

3. GEOGRAPHY.—An accurate knowledge of physical configuration, political divisions, and important centers of population, is required.

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4. HISTORY.—As a foundation in this subject, a knowledge of the early settlement of North America, and of the growth and development of the United States, is required. A knowledge of the nature and operation of the forces active in American life is desired, rather than the memorization of isolated dates and names.

ENTRANCE should be made at the opening of a semester, but applicants will be admitted at other times on presenting proofs that they are prepared to pursue the selected subjects. Examinations will be held in the rooms of the school, September 11 to 14, 1901, and January 31 and February 1, 1902. Examinations on these dates are free, but for special examinations at other times a fee of $3.00 may be charged.

EXAMINATIONS FOR ENTRANCE may be conducted in Illinois by county superintendents of schools in the same manner as for teachers' certificates, and their favorable reports will be accepted. First or second grade teachers' certificates from superintendents of Illinois will be taken for the same purpose.

ADMISSION FROM ACCREDITED SCHOOLS. On the written recommendation of their principals, students from the accredited schools of the University may be admitted without entrance examinations and credit will be allowed for all equivalent work already done. Blanks for such recommendations will be sent on application.

REGULATIONS

Reports regarding all students are sent at the close of each semester.

The calendar of the Preparatory School is the same as that of the University.

For information about fees and expenses, see page 296.

For special information with regard to the Preparatory School, address Principal of Preparatory School, Urbana, Illinois.

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LIST OF STUDENTS

TECHNOLOGICAL, SCIENTIFIC, AGRICULTURAL, AND LITERARY DEPARTMENTS

GRADUATE SCHOOL

Alvord, Clarence Walworth, A.B., *(Williams Coll.)*, 1891, *Urbana*, History.
*Barclay, Thomas, B.S., 1891, *Aurora*, Smelting and Refining Processes of the United States; Geology of Ore Deposits.
Bigelow, Mary Constance, A.B., 1899, *Champaign*, Mathematics.
Black, Alice Mary, *Champaign*, Latin.
*Brown, Walter Burroughs, B.S., 1897, *Buffalo, N. Y.*, Chemistry.
Busey, Frank Lyman, M.E., 1898, *Urbana*, Mechanical Engineering.
*Clarke, Edwin Besançon, B.S., 1891, *Chicago*, Architecture.
*Clifford, Charles Luther, B.S., 1899, *Serena*, Electrical Engineering.
*Clinton, George Perkins, M.S., 1894, *Urbana*, Botany.
Coar, Henry Livingston, A.M., *(Harvard Univ.)*, 1894, *Urbana*, Mathematics.
Craig, Wallace, B.S., 1898, *Chicago*, Zoölogy.
Dewey, James Ansel, M.S., 1898, *Urbana*, Botany and Bacteriology,
*Dillon, William Wagner, A.B., 1898, *Sheldon*, History.
*DuBois, Alexander Dawes, B.S., 1899, *Springfield*, Electrical Engineering.
Eckles, Harry Edward, B.S., 1898, *New Castle, Pa.*, Civil Engineering.
Fay, John Carl, A.B., *(Berea Coll.)*, 1899, *Champaign*, Mathematics and Chemistry.
*Fischer, Louis Engelmann, B.S., 1898, *Mascoutah*, Municipal and Sanitary Engineering.
Fraser, Wilber John, B.S., 1893, *Champaign*, Agriculture.
Frazey, Alice Belle, A.B., 1898, *Urbana*, English.
Gagnier, Edward Duscharm, B.S., *(Mich. Agrl. Coll.)*, 1899, *Champaign*, Mechanical Engineering.
*Gerber, Winfred Dean, B.S., 1899, *Rockford*, Municipal and Sanitary Engineering.
Gordon, Joseph Hinckley, *Vandalia*, Economics.
*Grimes, George Lyman, B.S., 1897, *Ann Arbor, Mich.*, Mechanical Engineering.
Hall, Elizabeth T., A.B., 1900, *Urbana*, Latin.
*Herwig, John Newton, B.S., 1899, *Mason City*, Mechanical Engineering.

* In absentia, see p. 280.

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*Hines, Edward George, B.S., 1900, *Urbana,* Architecture.
Hughes, Clarence Wilbert, A.B., 1900, *Urbana,* Economics.
*Ice, Meldora, B.S., 1897, *Gifford,* Architecture.
Kofoid, Mrs. Prudence Winter, A.B., *(Oberlin Coll.),* 1890, *Urbana,* History.
Latzer, Jennie Mary, B.S., 1900, *Highland,* Botany.
Laugman, John Oscar, B.S., 1900, *Helmar,* Botany.
*Lee, Julian Liechaski, B.S., 1900, *McComb, Miss.,* Mechanical Engineering.
McWilliams, Helen Louise, A.B., 1900, *Champaign,* French.
Marble, Harry Curtiss, B.S., 1896, *Champaign,* Electrical Engineering.
*Martin, John Madison, A.B., 1896, *Oak Park,* Pedagogy.
*Mayall, Edwin Lyman, B.S., 1900, *Peoria,* Mechanical Engineering.
Millar, Adam Vause, B.S., 1897, *Champaign,* Mathematics.
Miller, John Ezra, A.B., *(Michigan Univ.),* 1894, *Milledgeville,* Latin.
*Nevins, John, B.S., 1898, *Dallas, Tex.,* Architecture.
*Newell, Mason Harder, A.B., 1899, *Springfield,* Public Law and Administration.
Newton, Fred Earle, A.B., 1900, *Onarga,* Economics.
Oliver, Edd Charles, B.S., *(Purdue Univ.),* 1898, *Champaign.*
Otwell, Allen Meade, B.S., 1899, *Plainview,* Physics.
Palmer, William Gay, A.B., 1900, *Princeton,* Latin.
*Parr, John Louis, B.S., 1897, *Peoria,* Architecture.
*Plym, Francis John, B.S., 1897, *Lincoln, Neb.,* Architecture.
Ponzer, Ernest William, B.S., 1900, *Henry,* Mathematics.
Randall, Dwight T, B.S., 1897, *Urbana,* Mechanical Engineering.
*Richart, Frederick William, B.S., 1891, *Carterville,* Mechanical Engineering.
Robinson, Lewis Archibald, A.B., 1898, *White Post, Va.,* Pedagogy.
Rolfe, Martha Deette, B.S., 1900, *Champaign,* Physiography of Illinois.
*Ross, Luther Sherman, M.S., 1890, *DesMoines, Ia.,* Biology of Subterranean Crustaceans.
Salisbury, Herbert Spencer, B.S., *(Carthage Coll.),* 1899, *Burnside,* Geology.
Sammis, John Langley, M.S., 1899, *Champaign,* Chemistry.
Schulz, William Frederick, E.E., 1900, *Baltimore, Md.,* Electrical Engineering.
*Seely, Garrett Teller, B.S., 1899, *Oswego,* Civil Engineering.
Shamel, Archibald Dixon, B.S., 1898, *Urbana,* Agricultural Physics.
*Smith, George Russell, B.S., 1900, *Elkhart, Ind.,* Mechanical Engineering.
*Soverhill, Harvey Allen, B.S., 1900, *Beloit, Wis.,* Mechanical Engineering.
Spence, Franklin, B.S., 1895, *Urbana,* Architecture
*Strehlow, Oscar Emil, B.S., 1896, *Tuscaloosa, Ala.,* Civil Engineering.

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*Sweney, Don, B.S., 1896, *Galesburg,* Mechanical Engineering.
*Swenson, Bernard Victor, B.S., 1893, *Madison, Wis.,* Mechanical Engineering.
*Tower, Willis Eugene, B.S., 1894, *Chana,* Physics.
*Unzicker, William Luther, A.B., 1898, *Hopedale,* Latin.
*Walter, Charles Albert, B.S., Phar. Chem., 1898, *Indianapolis, Ind.,* The Quantitative Estimation of the Active Medicinal Principles of Plants.
Waters, Willard Otis, A.B., *(Benzonia Coll.),* 1896, B.L.S., 1890, *Champaign,* German.
*Webster, William W., B.S., 1899, *Urbana,* Mechanical Engineering.
Wells, Elias Herbert, Ph.B., *(DePauw Univ.),* 1900, *Philo,* History.
Whitmeyer, Mark Hubert, B.S., 1899, *Danville,* Architecture.
*Williamson, Albert St. John, B.S., 1898, *Milwaukee, Wis.,* Mechanical Engineering.
Willis, Clifford, B.S., 1900, *Champaign,* Entomology.
*Wolcott, James Thompson, B.S., 1898, *Peoria,* Chemistry.
Woodworth, Howard Oakley, B.S., 1892, *Champaign,* Pedagogy.
*Zimmerman, Walter Howard, B.S., 1897, *Champaign,* Mechanical Engineering.

SENIORS

[In the list which follows, "L. and A." stands for College of Literature and Arts; "S." for the College of Science.]

Allen, Albert Miller,	*Oberlin, Ohio,*	Architecture.
Allen, Frank Gilbert,	*Rock Island,*	Mechanical Eng'g.
Alspach, Fred Albert,	*Mt. Pulaski,*	Civil Engineering.
Applegate, Alpheus Miller,	*Atlanta,*	Music.
Armitage, James Howard,	*Buckingham,*	Classical.
Bailey, Donald Herbert,	*Clinton,*	General, L. and A.
Baker, Horatio Weber,	*Champaign,*	Civil Engineering.
Baldwin, Aneta,	*Paris,*	General, L. and A.
Bardwell, Faith Leland,	*Champaign,*	English.
Barnett, Arthur,	*Hallsville,*	Prep. to Medicine.
Bell, Arthur Timothy,	*Azotus,*	Mathematics, L. and A.
Bell, Edgar Deforest,	*Urbana,*	Mechanical Eng'g.
Bird, Frederick Joel,	*Woodstock,*	Railway Eng'g.
Black, Alice Mary,	*Champaign,*	General, L. and A.
Black, Laura Louise,	*Champaign,*	General, L. and A.
Bonser, Frederick Gordon,	*Pana,*	Philosophy, S.
Boyd, Edward Parkman,	*Aledo,*	Architecture.
Bracken, Ellis Freeman,	*Greenview,*	Electrical Eng'g.
Brayton, Louis Frederick,	*Mt. Morris,*	Architectural Eng'g.
Bridgeman, Minnie Clarke,	*Keene, N. H.,*	Library.
Briggs, Claude Porter,	*Minier,*	General, L. and A.

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Buchanan, James William,	*Charleston, Ind.,*	General Science.
Bundy, Ralph Parmer,	*Zionsville, Ind.,*	General, L. and A.
Burdick, Jay Horace,	*Elgin,*	Agriculture.
Calhoun, Henrietta Anne,	*Champaign,*	General Science.
Campbell, Ashton Ellsworth,	*Champaign,*	General, L. and A.
Carr, George Russell,	*Oak Park,*	Chemistry.
Carroll, Jessie Anna, A.B., *(Wilmington Coll.),* 1895,	*Wilmington, Ohio,*	Library.
Carter, Florence Emeline,	*Waukegan,*	Library.
Chapin, Edward Pierce,	*Champaign,*	General, L. and A.
Chapman, Charles Hiram,	*Vienna,*	General, L. and A.
Chester, Margaret Belle,	*Champaign,*	General, L. and A.
Chipps, Willis Cullem,	*Sullivan,*	Mechanical Eng'g.
Cole, Agnes Mary, B.S., *(Wheaton College),* 1893,	*Wheaton,*	Library.
Collins, Guy Richard,	*Urbana,*	Mechanical Eng'g.
Conard, Philip Arthur,	*Monticello,*	General, L. and A.
Cook, William Adelbert,	*Urbana,*	General, L. and A.
Crossland, George Marshall,	*Sheldon,*	Political Science.
Curfman, Lawrence Everett,	*Urbana,*	Math. and Physics.
Dadant, Louis Charles,	*Hamilton,*	Mechanical Eng'g.
Davis, Mary Belle,	*Urbana,*	General, L. and A.
Detrick, Nellie Elizabeth,	*Champaign,*	General, L. and A.
Dillon, Gertrude Sempill,	*Sheldon,*	General, L. and A.
Dillon, Roy Hodgson,	*Normal,*	Electrical Eng'g.
Draper, Charlotte Enid,	*Hakodate, Japan,*	General, L. and A.
Drury, Clair Fred,	*New Boston,*	Architecture.
East, Edward Murray,	*DuQuoin,*	Chemistry.
Emmett, Arthur Donaldson,	*Peoria,*	Chemistry.
Fellingham, Clark Hughes,	*Verona,*	Agriculture.
Fishback, Mason McCloud,	*Champaign,*	Political Science.
Franks, Charles Wilber,	*Brookville,*	General, L. and A.
Frazey, Nellie May,	*Urbana,*	General, L. and A.
Frost, Frank G,	*Gays,*	Mechanical Eng'g.
Fucik, Edward James,	*Chicago,*	Civil Engineering.
Garnett, Grace Ann,	*St. Marys,*	Latin and Mod. Lang.
Gayman, Myrtle,	*Champaign,*	General, L. and A.
Gleason, Henry Allan,	*Champaign,*	General Science.
Gordon, Joseph Hinckley,	*Vandalia,*	General, L. and A.
Graber, Howard Tyler,	*Peoria,*	Chemistry.
Green, Frances Myrtle,	*Urbana,*	General, L. and A.

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Greene, Charles Thomas,	*Chicago,*	Classical.
Gridley, Harry Norman,	*Virginia,*	General, L. and A.
Griswold, Augustus Harold,	*Princeton,*	Electrical Eng'g.
Griswold, Lewis Edwin,	*Blue Mound,*	Agriculture.
Hammers, Edna Rose,	*Champaign,*	General, L. and A.
Hammers, Jesse,	*Champaign,*	General, L. and A.
Harman, John James,	*Milford,*	Civil Engineering.
Harrison, Dale Stuart,	*Sterling,*	Civil Engineering.
Hartrick, Guy Russell,	*Urbana,*	Chemistry.
Hartrick, Louis Eugene,	*Urbana,*	General Science.
Hays, Carl,	*Urbana,*	Civil Engineering.
Heath, Lawrence Seymour,	*Robinson,*	General, L. and A.
Henderson, Alexander,	*Chicago,*	General, L. and A.
Hicks, Byron Wallace,	*Warren,*	Civil Engineering.
Hinkle, Ida May,	*Champaign,*	English.
Hobble, Arthur Casson,	*Rushville,*	Electrical Eng'g.
Hopkins, Mabel,	*Indianapolis, Ind.,*	General, L. and A.
Hoppin, Charles Albert,	*Aurora,*	Mechanical Eng'g.
Horner, Harlan Hoyt,	*Cerro Gordo,*	General, L. and A.
Housel, Oscar Lloyd,	*Galesburg,*	Electrical Eng'g.
Howard, Clara Elizabeth,	*Bloomington,*	Library.
Hunter, Harry Edgar,	*Newton, Ia.,*	Architecture.
Hurlbert, Flora Dorothy,	Morrison,	Library.
Iddings, Daisy Deane,	*Atlanta,*	English.
Johnson, James Edward,	*Champaign,*	General, L. and A.
Johnson, John Peter,	*Des Moines, Ia.,*	Mech. Eng'g.
Jones, Albert Edward,	*Lena,*	General, L. and A.
Jones, Fannie Ella,	*Morris,*	Library.
Joy, Samuel Scott,	*Princeton,*	Architecture.
Kelley, Frances Emily,	*St. David,*	Latin and Mod. Lang.
Kemp, John Edward,	*Lake Forest,*	Civil Engineering.
Kirkpatrick, Harlow Barton,	*Anna,*	Civil Engineering.
Kittredge, Mary Harriet,	*Keene, N. H.,*	Library.
Kreikenbaum, Charles Otto Adolph,	*Chicago,*	Chemistry.
Layton, Katherine Alberta,	*Canton,*	Latin and Mod. Lang.
Lindley, Walter Charles,	*Neoga,*	General, L. and A.
Livingston, Stacia,	*Plainfield, Wis.,*	Library.
Lloyd, George Taylor, B.L., *(Wheaton Coll.),* **1900,**	*Glen Ellyn,*	General Science.
Lodge, Paul Edmund,	*Monticello,*	General, L. and A.

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Lotz, John Rudolph,	*Lockport,*	Civil Engineering.
Lowenthal, Fred,	*Chicago,*	General, L. and A.
Lyman, Frank Lewis,	*Farmingdale,*	Chemistry.
Lytle, Ernest Barnes,	*Decatur,*	Math. and Physics.
McCall, Eugene Adolphus,	*Vienna,*	General, L. and A.
McCormick, Roscoe,	*Garber,*	Prep. to Medicine.
McCune, Fred Leavitt,	*Chicago,*	Mechanical Eng'g.
McLane, John Wallace,	*Allerton, Ia.,*	Agriculture.
Manley, Katherine O'Donovan,	*Oshkosh,* Wis.,	Library.
Marsh, Albert Leroy,	*Champaign,*	Chemistry.
Martin, May Louise,	*Geneva, Ohio,*	Library.
Meier, William,	*Chicago,*	Civil Engineering.
Miles, Harriette,	*Elgin, Kan.,*	Library.
Miles, Rutherford Thomas,	*Champaign,*	Chemistry.
Miller, William Pitt,	*Champaign,*	Math. and Physics.
Mitchell, Annie,	*Bement,*	Latin and Mod. Lang.
Monjonnier, Timothy,	*Highland,*	Chemistry.
Moon, Amy Constance,	*Champaign,*	Library.
Myers, Jesse J,	*Green River,*	General Science.
Newcomb, Cyrus Forsyth,	*Champaign,*	General Science.
Nichols, Gunther,	*Lima, Ind.,*	General, L. and A.
Nilsson, Olaf Anton,	*Chicago,*	Architectural Eng'g.
Norton, Charles Waterman,	*Lockport,*	Classical.
Norton, Wilbur Perry,	*Alton,*	Electrical Eng'g.
O'Hair, Edna Elizabeth,	*Laurel, Ind.,*	Latin and Mod. Lang.
Omer, Lewis,	*Clayton,*	Math. and Physics.
Patrick, Frederick Phillips,	*Blue Mound,*	Architectural Eng'g.
Pletcher, Nuba Mitchel,	*Hoopeston,*	German and Rom. Lang.
Radcliffe, William Hickman,	*Springfield,*	Municipal Eng'g.
Ray, Walter Thornton,	*Eureka,*	Mechanical Eng'g.
Read, Nellie Lewis,	*Urbana,*	Political Science.
Redfield, George William,	*Galesburg,*	Electrical Eng'g.
Reynolds, Mabel,	*Jacksonport, Wis.,*	Library.
Richardson, Robert Earl,	*Shipman,*	General, L. and A.
Rolfe, Mary Annette,	*Champaign,*	General Science.
Schroeder, Curt August,	*Chicago,*	Chemistry.
Schulte, Mabel,	*Hopedale,*	General, L. and A.
Scott, Frank William,	*Centralia,*	English.
Scott, Margaret Annie,	*Champaign,*	General, L. and A.
Short, Walter Campbell,	*Fillmore,*	Math., L. and A.
Simmons, Aaron Trabue,	*Jerseyville,*	Architecture.

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Slocumb, Edward Clyde,	*Champaign,*	Civil Engineering.
Sluss, Alfred Higgins,	*Tuscola,*	Mechanical Eng'g.
Smith, Bruce,	*Newman,*	General, L. and A.
Smith, George Carroll,	*Flora,*	General, L. and A.
Smith, Percy Almerin,	*Dixon,*	Math. and Physics.
Spellman, Lorinda Ballou,	*Granville, Ohio,*	Library.
Stanley, Otis Orion,	*Champaign,*	Prep. to Medicine.
Stevenson, Ralph Ewing,	*Bloomington,*	Civil Engineering.
Stewart, Miles Vincent,	*Toulon,*	Electrical Eng'g.
Strawn, John Harris,	*Albion,*	Classical.
Talbot, Carrie E,	*Plymouth,*	General, L. and A.
Tallyn, Louis Liston,	*Benson,*	Civil Engineering.
Theodorson, William Anton,	*Chicago,*	Civil Engineering.
Todd, Mary Estelle,	*Syracuse, N. Y.,*	Library.
Tull, Effie May,	*Farmer City,*	Classical.
Veirs, David Carroll,	*Urbana,*	Mechanical Eng'g.
Wahl, Henry,	*Champaign,*	Mechanical Eng'g.
Wait, Ernest Ludden,	*Urbana,*	Chemistry.
Warner, Harry Jackson,	*Prophetstown,*	Chemistry.
Welles, Winthrop Selden,	*Urbana,*	Philosophy, S.
Wetherbee, Charles Earl,	*Sterling,*	Architecture.
Williams, Ralph Joseph, A.B., *(Knox Coll.),* 1897,	*Galesburg,*	Architecture.
Williams, Seymour,	*Monticello,*	General, L. and A.
Williams, Winifred Sue,	*Newman,*	General, L. and A.
Wing, Florence Sherwood,	*LaCrosse, Wis.,*	Library.
Wright, Sidney Walter,	*Atlanta,*	General, L. and A.

JUNIORS

Abbott, Ruth,	*Chicago,*	Library.
Ahrens, Anna Wilhelmina,	*Champaign,*	General, L. and A.
Allen, Edith Louise,	*Delavan,*	General Science.
Arnold, Lillian Belle,	*Bloomington,*	Library.
Bader, Will John,	*Quincy,*	Chemistry.
Baker, Adaline Maitland,	*Evanston,*	Library.
Barackman, Guy Bernard,	*Streator,*	Civil Engineering.
Barr, John,	*Urbana,*	Civil Engineering.
Barry, George Richard,	*Hillsboro,*	Civil Engineering.
Bassett, Herbert,	*Yorkville,*	General Science.
Bates, John Schuyler,	*Monmouth,*	Civil Engineering.
Beidler, Gertrude Louis,	*Champaign,*	Music.
Bennett, William Lee,	*Urbana,*	Classical.
*Berger, Donald Forbes,	*Anna,*	Agriculture.

* Deceased.

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Bidwell, Carlyle Dickerman,	*Chicago,*	Electrical Eng'g.
Boggess, Arthur Clinton,	*Catlin,*	Political Science.
Bopp, William George,	*Chicago,*	General, L. and A.
Borton, William Franklin,	*DeLand,*	Electrical Eng'g.
Breitstadt, John Henry,	*Quincy,*	Chemistry.
Brittin, Fred,	*Cantrall,*	Prep. to Medicine.
Brown, Lewis,	*Rockford,*	Electrical Eng'g.
Buckhouse, Mary Gertrude, B.S., *(Univ. of Mont.),* 1900,	*Missoula, Mont.,*	Library.
Budington, Margaret, A.B., *(Vassar Coll.),* 1900,	*Kingston, N. Y.,*	Library.
Buell, Fred Allen,	*Houston, Texas,*	Electrical Eng'g.
Buerkin, Emma,	*Quincy,*	General, L. and A.
Burham, Edna Sophia,	*Dixon,*	General Science.
Busey, Paul Graham,	*Urbana,*	General Science.
Cabeen, Fred Earl,	*Aledo,*	Agriculture.
Cadwell, Charles Nickerson,	*Cadwell,*	General, L. and A.
Campbell, Maude Permil,	*Champaign,*	Music.
Carriel, Fred Clifford,	*Jacksonville,*	Railway Eng'g.
Carter, William Curtis,	*Homer,*	Electrical Eng'g.
Chapin, Arlo,	*Champaign,*	General, L. and A.
Clark, Edith, A.B., 1899,	*Vandalia,*	Library.
Clark, Elwyn Lorenzo,	*Momence,*	Civil Engineering.
Clark Emma Alberta,	*Urbana,*	General, L. and A.
Clark, Thomas Aquilla,	*Urbana,*	Electrical Eng'g.
Clarke, Roger Newman,	*Edwardsville,*	Civil Engineering.
Clarke, Victor Hugo,	*Quincy,*	Mechanical Eng'g.
Clayton, Clark Mensch,	*Dixon,*	Municipal Eng'g.
Coen, Homer Clarence,	*Olney,*	General, L. and A.
Collis, Frank Bernard,	*Rockford,*	Electrical Eng'g.
Condit, Jay Sidney,	*Beardstown,*	Political Science.
Cottingham, William Stillman Chapin,	*Bloomington,*	Agriculture.
Cowley, Thomas Philip,	*Rockford,*	Mechanical Eng'g.
Cunningham, Ralph Edwin,	*Emporia, Kas.,*	Electrical Eng'g.
Danely, Mary Golden,	*Champaign,*	General, L. and A.
Dedman, Bryant,	*Sullivan,*	Mechanical Eng'g.
DeMotte, Roy James,	*Urbana,*	General Science.
DeMotte, Ruby Thorne,	*Urbana,*	General Science.
DeVelde, Harry Samuel,	*Chicago,*	General, L. and A.
Dill, Cora Elva,	*Mt. Pleasant, Ia.,*	Library.
Dobbins, Ethel Irene,	*Champaign,*	General, L. and A.

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Dole, Sarah,	*Mattoon,*	General, L. and A.
Donoghue, William Joseph,	*LaSalle,*	Chemistry.
Draper, Edwin Lyon,	*Urbana,*	Chemistry.
Drew, Fred Leon,	*Elgin,*	Mechanical Eng'g.
Duffy, Guy,	*Ottawa,*	General, L. and A.
Dunbar, Margaret, B.L., *(Monmouth College),* 1896,	*Monmouth,*	Library.
Dunning, William Neil,	*Chicago,*	Civil Engineering.
English, Edward Cary, Jr.,	*Anna,*	Architecture.
Ensign, Alice Orra,	*Oak Park,*	Library, L. and A.
Etherton, William Alonzo,	*Carbondale,*	Architectural Eng'g.
Falkenberg, Fred Peter,	*Chicago,*	General, L. and A.
Farrin, James Moore,	*Cairo,*	Civil Engineering.
Farrin, William Otis,	*Cairo,*	Agriculture.
Forbes, Ernest Browning, B.S., 1897,	*Urbana,*	Agriculture.
Francis, Oscar Jefferson,	*Omaha, Neb.,*	Architecture.
Frazier, James William,	*Bushton,*	General Science.
Freese, John Andrew,	*Cadwell,*	General Science.
Fretz, Mrs. Jewell Camp,	*Tolono,*	Music.
Fullenwider, Thomas Irvin,	*Mechanicsburg,*	Civil Eng'g.
Fullerton, Hugh Regnier,	*Havana,*	General, L. and A.
Fulton, Robert Bruce,	*Hartford City, Ind.,*	Civil Eng'g.
Gage, Ralph Hawes,	*Chicago,*	Civil Engineering.
Gardiner, Charles Matthew,	*Champaign,*	Chemistry.
Geiger, Mabel Louise,	*Peoria,*	Library.
Gilkerson, Aletha,	*Urbana,*	General Science.
Gillespie, Belle Irene,	*Champaign,*	General, L. and A.
Goff, Mary Emma,	*Rantoul,*	General, L. and A.
Gold, Katharine Eaton,	*Chicago,*	Library, L. and A.
Goodale, Grace,	*Cincinnati, Ohio,*	Library.
Goss, Edna Lucy,	*Chicago,*	Library.
Graves, Marjorie,	*Dubuque, Ia.,*	Library.
Greenman, Edwin Gardner,	*Champaign,*	Mechanical Eng'g.
Hagedorn, Carl Frederick,	*Rock Island,*	Chemistry.
Hagey, Emma Joanna, A.B., *(Univ. of Neb.),* 1898,	*Norfolk, Neb.,*	Library.
Hanna, Max Ross,	*Rushville,*	Electrical Eng'g.
Harman, Ira Chase,	*Milford,*	Prep. to Medicine.
Harris, Chester Ellis,	*Ogden,*	Prep. to Medicine.
Harris, Thomas Luther,	*Modesto,*	Political Science.
Harshman, Lucius Romaine,	*Sullivan,*	Classical.

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Higgins, Samuel Chase,	*El Paso, Texas,* Mech. Eng'g.
Hinrichsen, Edward Eugene,	*Jacksonville,* Electrical Eng'g.
Hodge, Mrs. Harriet Evans,	*Cincinnati, Ohio,* Library.
Hostetter, Abram,	*Mt. Carroll,* Prep. to Medicine.
Howe, Harriet Emma,	*Urbana,* Library.
Hulce, Jennie Alice, Ph.M., *(Hillsdale Coll.),* 1899,	*Hillsdale, Mich.,* Library.
Husk, Frederick William,	*Shabbona,* Civil Engineering.
Ingham, Leonard Ward,	*Clinton,* General, L. and A.
Ingles, Ada May, B.S., *(Doane Coll.),* 1895,	*Pleasant Hill, Neb.,* Library.
James, Eula Elizabeth,	*Bentley,* General, L. and A.
Jarman, Henry Phelps,	*Elmwood,* Chemistry.
Johnson, Frederick Dawson,	*Alton,* Railway Eng'g.
Johnson, Fred Vollentine,	*Champaign,* Mechanical Eng'g.
Jones, Warren,	*Whitehall,* General, L. and A.
Jutton, Lee,	*Champaign,* Civil Engineering.
Kable, Charles Howard,	*Virden,* Architecture.
Keator, Edward Oris,	*Polo,* Civil Engineering.
Kerns, Harriet White,	*Champaign,* General, L and A.
Kofoid, Reuben Nelson,	*Normal,* Chemistry.
Lummis, Jessie Isa,	*Quincy,* General, L. and A.
Lundgren, Carl Lee,	*Marengo,* Civil Engineering.
Mabbett, Leora Esther, B.S., *(Univ. of Wis.),* 1897,	*Edgerton, Wis.,* Library.
McCarthy, Harry,	*Moline,* Mechanical Eng'g.
McGinnis, Mary Ola,	*Dawson,* General Science.
Malcolm, Charles Wesley,	*Roseville,* Civil Engineering.
Mapes, John Victor,	*Paris,* Chemistry.
Martin, Albert Carey,	*LaSalle,* Architectural Eng'g.
Martin, Webb Wilde,	*Jerseyville,* Chemistry.
Mather, Jennie Maria,	*Plainfield,* Library.
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Maxwell, Esther Anna,	*Champaign,* Library.
Mitchell, Edwin Whitford,	*Round Grove,* Agriculture.
Mount, Madison Hoge,	*Walnut Prairie,* Mech. Eng'g.
Murray, Nina Jeannette, B. S., *(Lenox Coll.),* 1891,	*Elmira,* Library.
Myers, Wynne,	*Champaign,* Library, L. and A.
Nabstedt, Frederick,	*Davenport, Ia.,* Electrical Eng'g.

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Oxer, George Carl,	*Macon,*	Electrical Eng'g.
Oyen, Albert Nelson,	*Chicago,*	Prep. to Medicine.
Parker, Lawrence Gilbert,	*Toluca,*	Civil Engineering.
Patton, Ada,	*Paxton,*	Library.
Peterson, Christian Peter Lauritz,	*Roskilde, Denmark,*	Civil Eng'g.
Pitts, Henrietta Betsy,	*Bloomington,*	General, L. and A.
Plant, Francis Benjamin,	*Texas City, Texas,*	Chemistry.
Poor, Edwin Lindsay,	*Streator,*	General Science.
Post, Hiram Franklin,	*Rock Rapids, Ia.,*	Mech. Eng'g.
Readhimer, Jerome Edward,	*Normal,*	Agriculture.
Reasoner, Clara Beck,	*Seymour,*	General, L. and A.
Reeves, George I,	*Wauponsee,*	General Science.
Richey, John Jefferson,	*Polo,*	Civil Engineering.
Rolfe, Susie Farley,	*Champaign,*	General Science.
Rose, Alice,	*Oak Park,*	Library.
Rose, L Vernon,	*Mattoon,*	General, L. and A.
Samson, Charles Leonard,	*Urbana,*	Mechanical Eng'g.
Samson, George Roy,	*Urbana,*	General, L. and A.
Sanders, Theodore Marcus,	*Little Rock, Ark.,*	Architecture.
Sawyer, Donald Hubbard,	*Oak Park,*	Municipal Eng'g.
Sawyer, George Loyal,	*Oak Park,*	Municipal Eng'g.
Schumacher, Tillie Joe,	*Champaign,*	General, L. and A.
Schwartz, Albert John,	*Dallas City,*	Civil Engineering.
Shimmin, Robert Philip,	*Rockford,*	Mechanical Eng'g.
Skinner, William Thomas,	*Loda,*	General Science.
Smith, Arthur Bourne, Ph.B., *(Wesleyan Univ.)*, 1900,	*Lockwood, N. Y.,*	Library.
Smith, Ellen Garfield,	*Chicago,*	Library.
Snodgrass, John McBeath,	*Chicago,*	Mechanical Eng'g.
Spaulding, Ida Mary,	*Oshkosh, Wis.,*	Library.
Stedman, Jeanette,	*Champaign,*	Music.
Steele, Lavinia,	*Coon Rapids, Ia.,*	Library.
Steinmayer, Otto Christopher,	*LaSalle,*	Chemistry and Eng'g.
Storms, Mabel Moore,	*Fairport, N. Y.,*	Library.
Sussex, James Wolfe,	*Abingdon,*	Civil Engineering.
Swanberg, Floyd Ludwig,	*Danville,*	Mechanical Eng'g.
Taylor, Helen Mary,	*Bloomington,*	General, L. and A.
Thompson, Frank Linn,	*Champaign,*	General, L. and A.

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Thompson, McDonald,	*Isabel,*	Civil Engineering.
Thompson, Risty Melroy,	*Newman,*	Mechanical Eng'g.
Updike, Hector,	*Belleville,*	Mechanical Eng'g.
Vance, Edna Cecilia,	*Edwardsville,*	Library.
VanMeter, George William,	*Washington,*	Architecture.
Voss, Sophie Mary,	*Champaign,*	Music.
VonDerLippe, Ernest Carl Frederick,	*Chicago,*	Civil Eng'g.
Waller, Sarah Bell, B.S., *(Oxford Coll.),* 1897,	*River Forest,*	Library.
Waterbury, Leslie Abram,	*Polo,*	Civil Engineering.
Wendell, Francis George,	*New Holland,*	Civil Enginering.
Wesselhoeft, Charles Dietrich,	*Chicago,*	Electrical Eng'g.
Western, Irving Mark,	*Dundee,*	Political Science.
White, James Dunwell,	*Taylorville,*	General, L. and A.
White, William Elmer,	*Pana,*	Prep. to Medicine.
Whitehouse, Edith Ursula,	*Canton,*	Classical.
Whitson, Milton James,	*Davenport, Ia.*	Architecture.
Wilkins, Marion Isabel,	*Urbana,*	Library, L. and A.
Wilkinson, Nathan,	*Emporia, Kas.,*	Electrical Eng'g.
Williams, Elrick,	*Illiopolis,*	Chemistry.
Wilson, Thomas,	*Caledonia,*	Electrical Eng'g.
Wolff, Solomon,	*El Paso, Texas,*	Electrical Eng'g.
Wolleson, Herbert Henry,	*Belleville,*	Architectural Eng'g.

SOPHOMORES

Allen, Mae Louise,	*Champaign,*	General, L. and A.
Anderson, Mary,	*Macon,*	General, L. and A.
Apple, Charles,	*Palestine,*	Civil Engineering.
Atwood, James Thomas,	*Rockford,*	Mechanical Eng'g.
Baker, Howard Newell,	*Champaign,*	Prep. to Medicine.
Barker, Perry,	*Rochelle,*	Chemistry.
Barnsback, Seddie Elizabeth,	*Edwardsville,*	Library, L. and A.
Barrett, James Theophilus,	*Butler,*	General Science.
Baumberger, Harry Nicholas,	*Greenville,*	Civil Engineering.
Bean, Clarence Herbert,	*Rock Falls,*	Chem. and Eng'g.
Bear, Ernest,	*Bearsdale,*	Civil Engineering.
Benefiel, Wenona Epps,	*Mattoon,*	Math. and Physics.
Bennett, John Lewis,	*Mattoon,*	General, L. and A.
Bennett, Stella,	*Irene,*	Library, L. and A.
Bigelow, Charles Albert,	*Champaign,*	Mechanical Eng'g.
Black, George W,	*Oakland,*	General, L. and A.
Blackburn, Joe Romine,	*Danville,*	Mechanical Eng'g.

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Blanchard, Nathaniel Pearce,	*Urbana,*	Architecture.
Block, Edgar William,	*Sidney,*	Civil Engineering.
Bond, Austin,	*Carmel, Ind.,*	Architecture.
Bonnell, Everett Shannon,	*LaMoille,*	*Electrical Eng'g.*
Booker, Helen Ethel,	*Champaign,*	General, L. and A.
Boon, Harry Larry,	*Armstrong,*	General, L. and A.
Borton, Lucina Jane,	*Urbana,*	General L. and A.
Bradshaw, Jessie Isabelle,	*Chicago,*	General, L. and A.
Briggs, Edwin Cressy,	*Rockford,*	Mechanical Eng'g.
Brittin, Edward Bayliss,	*Cantrall,*	Prep. to Medicine.
Brookings, Louise Roberts,	*DuQuoin,*	General, L. and A.
Brundage, Martin Denman,	*Malta,*	General L. and A.
Bryant, Arthur Warren,	*Princeton,*	Agriculture.
Buell, Edward Thomas,	*Chicago,*	Electrical Eng'g.
Buerkin, Marguerite,	*Quincy,*	General, L. and A.
Burkhalter, Wayne Edison,	*Peoria,*	Civil Engineering.
Burnett, Roland,	*N. Harvey,*	Mechanical Eng'g.
Burrill, Lettie Evelyn,	*Kansas City, Mo.,*	Gen., L. and A.
Burrill, Mildred Ann,	*Urbana,*	General, L. and A.
Cabanis, Rena Clark,	*Kinmundy,*	Civil Engineering.
Campbell, Daisy Irene,	*Champaign,*	General, L. and A.
Carr, Earl Henry,	*DuQuoin,*	General, L. and A.
Carson, Francis Thomas,	*Urbana,*	General Science.
Carter, Opal Gertrude,	*Champaign,*	General Science.
Chacey, Anna Olive,	*Hillsboro,*	General, L. and A.
Chisholm, Estella Forth,	*Champaign,*	General, L. and A.
Clark, Matilda Lenna,	*Elvaston,*	General Science.
Clinton, Anna Lucile,	*Polo,*	Library, L. and A.
Cobb, Scott Ewing,	*Galesburg,*	Mechanical Eng'g.
Cook, James Fitchie,	*Dundee,*	Mechanical Eng'g.
Dake, LeRoy Gilbert,	*Harvard,*	General, L. and A.
Dalbey, Dwight Stout,	*Taylorville,*	Agriculture.
Dallenbach, J C,	*Champaign,*	General Science.
Danahey, Thomas Francis,	*Quincy,*	General, L. and A.
Darlington, Genevieve,	*LaGrange,*	Library, L. and A.
Dawson, Charles Hubbard,	*Bement,*	General Science.
Dayton, Laura,	*Paris,*	Music.
Delzell, Mayo Alexander,	*Robinson,*	Mechanical Eng'g.
Dolkart, Leo,	*Chicago,*	Electrical Eng'g.
Dorsey, Clarence Benson,	*Moro,*	Agriculture.
Drury, Ralph Southward,	*New Boston,*	Mechanical Eng'g.
Duffy, James Franklin, Jr.,	*Chicago,*	Electrical Eng'g.

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Dunshee, Vernon Amasa,	*Mt. Carroll,*	Prep. to Medicine.
Eidmann, Gustav Herman,	*Mascoutah,*	Agriculture.
Elder, Bessie Marie,	*Topeka, Kas.,*	Music.
Fisher, Clara Edna,	*Champaign,*	General, L. and A.
Fiske, Clarence Wilson,	*Sterling,*	Mechanical Eng'g.
Fletcher, Carl Joshua,	*Galesburg,*	Electrical Eng'g.
Folckemer, Harry Rox,	*Camp Point,*	Prep. to Medicine.
Forbes, Ethel Clara Schumann,	*Urbana,*	General, L. and A.
Forbes, Marjorie Douglas,	*Urbana,*	General, L. and A.
French, Maurice Deen,	*Danville,*	Electrical Eng'g.
Fursman, William Hiram,	*El Paso,*	Civil Engineering.
Gale, Eli Pike,	*Aurora,*	Chemistry.
Garnett, Elmer Logan,	*St. Marys,*	General, L. and A.
Garver, Willia Kathryn,	*Bloomington,*	Library, L. and A.
Gibbs, Elizabeth Hayward,	*Urbana,*	Music.
Gilkerson, Frances Emeline,	*Urbana,*	General, L. and A.
Gillespie, Louella Ida,	*Champaign,*	Music.
Goodman, Herbert Marcus,	*Chicago,*	Prep. to Medicine.
Green, Charles Henry,	*Sterling,*	Mechanical Eng'g.
Habermeyer, George Conrad,	*Aurora,*	Civil Engineering.
Haight, Samuel John, Jr.,	*Mendota,*	Agriculture.
Hall, Augusta Maude,	*Urbana,*	General, L. and A.
*Harrington, Theodore G,	*Delavan,*	Prep. to Medicine.
Harris, Thaddeus Sidney,	*Modesto,*	General Science.
Hatch, Walter Ray,	*Goshen, Ind.,*	Civil Engineering.
Hayhurst, Emery Roe,	*Maywood,*	Prep. to Medicine.
Heath, Lillian,	*Whiteheath,*	General, L. and A.
Henderson, Mary,	*Cedar Rapids, Ia.,*	Lib., L. and A.
Herman, Edward Elmer,	*Waukegan,*	Electrical Eng'g.
Herrick, Lyle George,	*Farmer City,*	General, L. and A.
Higgins, Charles Huntington,	*Quincy,*	Chemistry.
Higgins, Francis Whitson,	*Chicago Heights,*	Chemistry.
Holcomb, Timothy Osmond, Jr.,	*Milmine,*	General Science.
Holderman, Marjorie Campbell,	*Urbana,*	General, L. and A.
Holmes, Alfred Edwin,	*Bradford,*	Civil Engineering.
Howell, Carrie Barnes,	*Urbana,*	Agriculture.
Hunter, Charles Phelps,	*Newton, Ia.,*	General, L. and A.
Huntoon, John Samuels,	*Moline,*	Civil Engineering.
Inks, Frank Emerson,	*Ohio,*	Prep. to Medicine.
Ireland, Washington Parker,	*Chicago,*	Civil Engineering.
Jacobs, Manuel Joseph,	*Chicago,*	Civil Engineering.

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Johnson, Albert Myron,	*Kishwaukee,*	Electrical Eng'g.
Johnson, William Chance,	*Champaign,*	General, L. and A.
Jones, J Claude,	*Chicago,*	General Science.
Jones, Lucile,	*Chicago,*	Library, L. and A.
Kaeser, William George,	*Highland,*	General, L. and A.
Kelly, Arthur Rolland,	*Waterloo, Ia.,*	Architecture.
Kelso, Curtis Elmer,	*Thomasboro,*	Chemistry.
Kettenring, Henry Sylvester,	*Pekin,*	General, L. and A.
Ketzle, Henry Benjamin,	*Reynolds,*	Mechanical Eng'g.
Kimmel, Howard Elihu,	*DuQuoin,*	General, L. and A.
King, Louis Blume,	*Champaign,*	General, L. and A.
Kuss, Robert Hayden,	*Peoria,*	Mechanical Eng'g.
Lake, Mrs. Effie Estelle,	*Champaign,*	Music.
Landon, Truman Harry,	*Jerseyville,*	Civil Engineering.
Langworthy, Carrie Valeria,	*Dubuque, Ia.,*	Library, L. and A.
Larrison, George Kirkpatrick,	*Havana,*	Civil Engineering.
Lefler, Emma Grace,	*Pontiac,*	Library, L. and A.
Lehmpuhl, Hermann Frank,	*Chicago,*	Electrical Eng'g.
LeSourd, Alfred Curtis,	*Topeka,*	Civil Engineering.
Lindgren, Justa Morris,	*Moline,*	Chemistry.
Lloyd, Robert Clinton,	*Canton,*	Agriculture.
Love, Leila Sara,	*Danville,*	General, L. and A.
Luther, Otto Lawrence,	*Quincy,*	Classical.
McCracken, George Milas,	*Pana,*	Architecture.
McCulloch, Albert Barnes,	*St. Louis, Mo.,*	Architecture.
McFarland, James Albert,	*Mendota,*	Chemistry.
McIntosh, Katheryn Eleanor Annie,	*Champaign,*	General, L. and A.
McRobie, Isabel,	*Chicago,*	Classical.
Mann, Alice Calhoun,	*Danville,*	General, L. and A.
Manspeaker, Pearle,	*Champaign,*	General, L. and A.
Marsh, George Requa,	*Marseilles,*	General, L. and A.
Mayer, Elmer Benjamin,	*Mt. Pulaski,*	General, L. and A.
Metzger, Louis Charles Frederick,	*Belleville,*	Civil Engineering.
Mills, Ralph Garfield,	*Decatur,*	General Science.
Miskimen, William Anderson,	*Hoopeston,*	Mechanical Eng'g.
Monier, Sara,	*Champaign,*	Library, L. and A.
Moore, Claude Bliss,	*Wilmington,*	Mechanical Eng'g.
Morrow, Nelson C,	*Rockford,*	Prep. to Medicine.
Munsen, Andrew,	*Henry,*	Civil Engineering.
Noble, Thomas,	*Urbana,*	Agriculture.

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Parker, Roy Sheldon,	*Toluca,*	Political Science.
Piper, Ellsworth Elmer,	*Chicago,*	Electrical Eng'g.
Platt, Alfred,	*Decatur,*	Prep. to Medicine.
Prater, Banus Hutson,	*Decatur,*	Civil Engineering.
Price, Hugh Mitchel,	*Urbana,*	Civil Engineering.
Provine, Loring Harvey,	*Macomb,*	Architecture.
Quayle, Henry Joseph,	*Bondville,*	General Science.
Ramsey, William Everton,	*Chicago,*	Architectural Eng'g.
Read, Edgar Newton,	*Urbana,*	General Science.
Rhoads, Albert Carlton,	*Champaign,*	Mechanical Eng'g.
Rightor, Fred Elmer,	*Rockford,*	Civil Engineering.
Riley, Anna Bethiar,	*Urbana,*	Library, L. and A.
Robison, Lyle,	*Kewanee,*	Political Science.
Rose, Fred Wayland,	*Mason,*	Electrical Eng'g.
Rutt, Roy Weaver,	*Sterling,*	Mechanical Eng'g.
Schacht, John Henry,	*Moline,*	Architecture.
Schmidt, Gustavus Adolphus,	*Chicago,*	Prep. to Medicine.
Schutt, Alfred George,	*Belleville,*	Electrical Eng'g.
Scudder, Harry Disbro,	*Chicago,*	Agriculture.
Seymour, Budd Willard,	*Dwight,*	Civil Engineering.
Shawhan, William Warren,	*Champaign,*	Civil Engineering.
Sheldon, Maude Lillian,	*Sharpsburg,*	General Science.
Sheldon, Victor Lorenzo,	*Taylorville,*	Mechanical Eng'g.
Shoemaker, John Earl,	*Charleston,*	General, L. and A.
Siler, Roderick William,	*Chicago,*	Civil Engineering.
Skinner, Elgie Ray,	*Champaign,*	Mechanical Eng'g.
Smith, Roy,	*Colusa,*	General, L. and A.
Sparks, Annie Elnora,	*Urbana,*	Classical.
Stansbury, Alta Louise,	*Cedar Rapids, Ia.,*	Library, L. and A.
Steinwedell, Carl,	*Quincy,*	Chemistry.
Stevens, Lucie Alzina,	*Marengo,*	General, L. and A.
Storey, Ellsworth Prime,	*Chicago,*	Architecture.
Street, Marietta Louise,	*Dixon,*	Library, L. and A.
Stuebe, Leonard Fred,	*Danville,*	Architecture.
Stutsman, Ada Helen,	*Quincy,*	General, L. and A.
Swezey, Anne Davies,	*Hinsdale,*	Library, L. and A.
Tegen, Robert Frederick,	*Manitowoc, Wis.,*	Architecture.
Tuthill, Lewis Butler,	*Anna,*	General, L. and A.
Varnes, Albert Grafton,	*Farmington,*	Civil Engineering.

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Westhold, Hannah Amanda,	*Marblehead,*	General, L. and A.
Whitham, Paul Page,	*Olympia, Wash.,*	Mechanical Eng.
Whitsitt, Hammond William,	*Preëmption*	Architecture.
Williams, Simon,	*Illiopolis,*	General, L. and A.
Wilson, Joseph Wade,	*Moline,*	Architecture.
Woodmansee, Ralph Collum,	*Champaign,*	Library, L. and A.
Zangerle, Arthur Norman,	*Chicago,*	Chemistry.
Zartman, Lester William,	*Grant Park,*	General, L. and A.

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Abell, Ralph Elliott,	*Elgin,*	Architecture.
Ahlswede, Arthur Charles,	*Chicago,*	Agriculture.
Allen, Arthur William,	*Peoria,*	Architectural Eng'g.
Allen, Paschal,	*Delavan,*	Agriculture.
Allin, Eugenia,	*Bloomington,*	Library, L. and A.
Anderson, John Edward,	*Paxton,*	General, L. and A.
Applegate, Archie Bleigh,	*Atlanta,*	Agriculture.
Armeling, Carl Elmer,	*Mason City,*	Classical.
Armstrong, Gertrude Maud,	*Champaign,*	General, L. and A.
Baer, David Arthur,	*Alexis,*	Electrical Eng'g.
Bailey, Walter Thomas,	*Kewanee,*	Architecture.
Baker, Imo Estella,	*Champaign,*	General, L. and A.
Baker, Nettie S,	*Morrison,*	Library, L. and A.
Ballard, William Salisbury,	*Batavia,*	General Science.
Ballinger, Ralph Adams,	*Keokuk, Ia.,*	Mechanical Eng'g.
Ballou, Frederick Herbert,	*Wheaton,*	Electrical Eng'g.
Barker, Rollin Sabin,	*Mason,*	Civil Engineering.
Barnhart, Charles Anthony,	*Mansfield,*	Math. and Physics.
Barnhart, Jesse Melangthon,	*Mansfield,*	Chemistry.
Barry, Harold Bradford,	*Hillsboro,*	Civil Engineering.
Barter, Harold Hendryx,	*Chicago,*	Mechanical Eng'g.
Bates, Patrick Francis,	*Tolono,*	Civil Engineering
Bauer, Ralph Stanley,	*Stonington,*	Classical.
Becker, Cornelius Adolph,	*Chicago,*	Electrical eng'g.
Benson, Arthur Chapman,	*Cedar Bluff,*	General, L. and A.
Berger, John Milton,	*Dolton Station,*	Prep. to Medicine.
Best, John Henry,	*Quincy,*	Civil Engineering.
Bjork, David Theodore,	*Chicago,*	Civil Engineering.
Blackburn, Roy Jabez,	*Decatur,*	Electrical Eng'g.
Bond, Annie Louise,	*Mt. Vernon,*	General, L. and A.

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Bosworth, Earle Melas,	*Vincennes, Ind.,*	Architecture.
Bourne, Lemuel Harold,	*Amboy,*	General, L. and A.
Brayton, Bruce Leroy,	*Mt. Morris,*	Political Science.
Briggle, Charles Guy,	*Rushville,*	General, L. and A.
Brink, Sherman Gillespie,	*Edwardsville,*	General, L. and A.
Brown, Arthur Charles,	*Champaign,*	Mechanical Eng'g.
Brown, Seymour Dewey,	*Chicago,*	Civil Engineering.
Burford, Cary Clive,	*Hoopeston,*	General, L. and A.
Burgess, Fred Henry,	*Monticello,*	Civil Engineering.
Burgess, Ralph Royal,	*Monticello,*	Architecture.
Burr, Elizabeth Hal,	*Champaign,*	Library, L. and A.
Bushnell, George Stearns,	*Chicago,*	Mechanical Eng'g.
Campbell, Muriel Florence,	*Champaign,*	General, L. and A.
Carter, William Douglas,	*Quincy,*	Electrical Eng'g.
Cattron, John William,	*Fairview,*	Agriculture.
Cavanor, Frank Tracy,	*Chicago,*	Prep. to Medicine.
Cayou, Francis Mitchell,	*Decatur, Neb.,*	Electrical Eng'g.
Chapin, George,	*Champaign,*	General, L. and A.
Chapin, Lucy,	*Champaign,*	General, L. and A.
Chapman, Daniel Ward,	*Vienna,*	General, L. and A.
Charles, Paul Lamont,	*Woodstock,*	Electrical Eng'g.
Chester, Anna,	*Champaign,*	General, L. and A.
Chester, Virginia,	*Champaign,*	General, L. and A.
Churchill, James Forrest,	*Keithsburg,*	Civil Engineering.
Clark, Alice Hartzel,	*Urbana,*	Architecture.
Clark, George Arthur,	*Peoria,*	Civil Engineering.
Connelly, William J,	*Chicago,*	Classical.
Coombe, Harry N,	*Arcola,*	Agriculture.
Coons, Clarence Wilbur,	*Bloomington,*	Agriculture.
Corbin, Henry,	*Carbon Cliff,*	Electrical Eng'g.
Cox, Claude Herbert,	*Vandalia,*	Agriculture.
Cox, Manford E,	*Robinson,*	General, L. and A.
Coyle, John Frank,	*Penfield,*	General Science.
Crews, Halbert Ottis,	*Mt. Vernon,*	General, L. and A.
Crosthwait, George Ashley,	*Urbana,*	General Science.
Crowder, Lenora Ellen,	*Havana,*	General, L. and A.
Crum, George Everett,	*Selma,*	Civil Engineering.
Crumbaugh, Bertha Viola,	*LeRoy,*	General, L. and A.
Curtis, Paul Steele,	*Arcola,*	Chemistry.
Custer, Bertha Mae,	*Streator,*	General, L. and A.
Dadant, Henry Camille,	*Hamilton,*	Civil Engineering.

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Daniels, Coralie Alfredetta,	*Savoy,*	Household Science.
Darlington, Herbert Spencer,	*LaGrange,*	Electrical Eng'g.
Dart, Whitman,	*Rock Island,*	Architecture.
Davis, Cleon Leslie,	*Mt. Zion,*	Civil Engineering.
Davis, Forrest Spurgeon,	*Urbana,*	General, L. and A.
Davis, John Wolfersperger,	*Sterling,*	Electrical Eng'g.
Deutschmann, Fred John, Jr.,	*Belleville,*	Civil Engineering.
Dickerson, George Hamm,	*Mahomet,*	Mechanical Eng'g.
Diefenbach, Arthur Garfield,	*Blue Island,*	Electrical Eng'g.
Diener, Walter Gustav,	*Chicago,*	Electrical Eng'g.
Dieterle, Edward August,	*Chicago,*	Mechanical Eng'g.
Dirks, Henry Bernhard,	*Chicago,*	Mechanical Eng'g.
Doud, Willard Orrin,	*Chicago,*	Mechanical Eng'g.
Doyle, Joseph Lemen,	*Champaign,*	General, L. and A.
Durland, Clyde Earl,	*Flora,*	Civil Engineering.
Ealey, Homer,	*Urbana,*	Civil Engineering.
Ealey, Minnie,	*Urbana,*	Music.
Eckstorm, Harold,	*Chicago,*	Mechanical Eng'g.
Eide, Torris,	*Lee,*	Civil Engineering.
Emmerson, Raymond Jesse,	*Mt. Vernon,*	General, L. and A.
Engstrom, Roy Victor,	*Peoria,*	Civil Engineering.
Ericson, Lambert Theodore,	*Moline,*	Mechanical Eng'g.
Ernest, Roy Alfred,	*Sycamore,*	Electrical Eng'g.
Errett, Albert Widney, Jr.,	*Kewanee,*	Mechanical Eng'g.
Evans, Kenneth Neill,	*Taylorville,*	General, L. and A.
Ewing, Charles Edwin,	*Decatur,*	Civil Engineering.
Ferguson, Charles L,	*Mendota,*	Natural Science.
Fisher, George,	*Champaign,*	Mechanical Eng'g.
Flagg, Samuel Barry,	*Alton,*	Mechanical Eng'g.
Fleming, Clarence E,	*Delavan,*	General, L. and A.
Floto, Ernest Charles,	*Dixon,*	Civil Engineering.
Fogg, Alma Jessie,	*Wenona,*	General Science.
Ford, Ernest Jason,	*Prairie Center,*	Prep. to Medicine.
Frankenberg, Pearle,	*Urbana,*	Library, L. and A.
French, Burton,	*Chicago,*	Electrical Eng'g.
Gaines, Forest,	*Champaign,*	General Science.
Galeener, John Halbert,	*Vienna,*	General, L. and A.
Garden, Henry Rhiel,	*Joliet,*	Civil Engineering.
Gardiner, Cecil Merritt,	*Champaign,*	Prep. to Medicine.
Gaston, David Newton,	*Chicago,*	Mechanical Eng'g.
Gengler, Wilbert,	*Sandwich,*	Chemistry and Eng'g.

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Gibbs, Charlotte Mitchell,	*Urbana,*	General, L. and A.
Gillespie, Charles Millard,	*Paris,*	Agriculture.
Gillham, Philip Dakin,	*Princeton,*	Mechanical Eng'g.
Gilmour, Joseph Coleman,	*Biggsville,*	Civil Engineering.
Ginzel, Carl Louis,	*Trenton,*	Electrical Eng'g.
Glassco, Paul Bond,	*Charleston,*	Architectural Eng'g.
Goodspeed, Wilbur Fisk,	*Tuscola,*	Agriculture.
Gorham, Josiah,	*Champaign,*	Chemistry.
Gossman, Frank Louis,	*Cairo,*	General, L. and A.
Gray, Bartlett Stephen,	*Jacksonville,*	General, L. and A.
Green, LeRoy M,	*Rockford,*	General, L. and A.
Greenwood, Harris Paul,	*Edwardsville,*	Electrical Eng'g.
Hadden, Samuel Cornelius,	*Mazon,*	Civil Engineering.
Hadfield, Frank Stanley,	*Chicago,*	Mechanical Eng'g.
Hampton, Ethel Alleyene,	*Macomb,*	General Science.
Hardy, Guy Byron,	*Abingdon,*	General, L. and A.
Harney, Charles Jones,	*Henry,*	Civil Engineering.
Harpole, Byron,	*Champaign,*	Electrical Eng'g.
Hawes, Charlotte Emma,	*Decatur,*	Library, L. and A.
Hawkins, Anna deZeng,	*Arcola,*	General, L. and A.
Hawthorne, Elizabeth Lena,	*LaPlace,*	Mathematics.
Hecox, Walter Coffeen,	*Champaign,*	Civil Engineering.
Hedges, Ida Belle,	*Urbana,*	General, L. and A.
Heinzelman, Chester Arthur,	*Belleville,*	Electrical Eng'g.
Henry, Smith Tompkins, Jr.,	*Bushnell,*	Civil Engineering.
Higinbotham, Nathan Jay,	*Arcola,*	General, L. and A.
Hilliard, Frank Wyman,	*Brighton,*	Electrical Eng'g.
Hoff, Edna DuBois,	*Chicago Heights,*	Chemistry and Physics.
Holch, Fred Leidy,	*Gilman,*	General, L. and A.
Holcomb, Clarence Eugene,	*Milmine,*	Electrical Eng'g.
Holstman, Frederick Albert,	*Peoria,*	Civil Engineering.
Hook, Isaac Herschel,	*Vienna,*	Civil Engineering.
Horr, Ralph Ashley,	*Gibson City,*	General, L. and A.
Horr, Ray Leekley,	*Galena,*	Electrical Eng'g.
Hunt, Mabel Dorothy,	*Urbana,*	General, L. and A.
Hunter, Lum,	*Paris,*	General, L. and A.
Hyde, Sophie,	*Chicago,*	Library, L. and A.
Jackson, William Gauss,	*Vienna,*	General, L. and A.
Jacobson, Noah Henning,	*Niantic,*	General, L. and A.
James, Lee Roy,	*Beardstown,*	Mechanical Eng'g.

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Jones, Emlyn Ivor,	*Lexington,*	General, L. and A.
Jones, Mabel Agnes,	*Chicago,*	General, L. and A.
Jordan, Agnes Emma,	*Tolono,*	General, L. and A.
Kaufman, Rudolph Clinton,	*Covington, Ind.,*	General, L. and A.
Kelly, David Henry,	*El Paso, Tex.,*	Electrical Eng'g.
Keusink, Wilhelmina Minnie,	*Champaign,*	Civil Engineering.
King, Lulu Belle,	*King,*	Math. and Physics.
Kircher, Harry Bertram,	*Belleville,*	Electrical Eng'g.
Kirkpatrick, Hugh Granville,	*Virden,*	Electrical Eng'g.
Kneeland, Frank Hamilton,	*Dwight,*	Mechanical Eng'g.
Knowlton, William David,	*Onarga,*	General Science.
Koogler, Frank S,	*Champaign,*	General, L. and A.
Kreisinger, Henry,	*Champaign,*	Mechanical Eng'g.
Kutsch, William Adelbert,	*LaSalle,*	Chemistry and Eng'g.
Larson, Lawrence Fred,	*Galva,*	General, L. and A.
Leaf, Charles Emanuel,	*Chicago,*	Chemistry.
Lease, Leonard John,	*Nokomis,*	Electrical Eng'g.
Lehner, John Conrad,	*Stockton,*	General, L. and A.
Leverton, Ernest Richard,	*Warren,*	Electrical Eng'g.
Lewis, Harry Chester,	*Mendota,*	General, L. and A.
Logeman, Albert Edwin,	*Ravenswood,*	Mechanical Eng'g.
Long, Troy Lowell,	*Morrisonville,*	General, L. and A.
Loosley, Frederick Edwin,	*Rock Island,*	Mechanical Eng'g.
Lourie, Herbert Shaw,	*Keokuk, Ia.,*	Mechanical Eng'g.
McCarthy, John James,	*Chicago,*	General, L. and A.
McCarty, John,	*Tuscola,*	Agriculture.
McClelland, Charles Thomas,	*Decatur,*	Civil Engineering.
McClelland, Robert Alexander, Jr.,	*Yorkville,*	Agriculture.
McClintock, Charles Philip,	*Philo,*	Civil Engineering.
McCullough, John Fred,	*Centralia,*	Electrical Eng'g.
McIlhenny, Mary Elizabeth,	*Macomb,*	General Science.
McKinley, George Harvey, Jr.,	*Moline,*	General, L. and A.
McKnight, William Asbury,	*Ingraham,*	General, L. and A.
McMillan, Edward Andrew,	*Biggsville,*	Municipal Eng'g.
McMillan, Neil, Jr.,	*Chicago,*	Architecture.
Mahan, Angeline Floyd,	*Lexington,*	General, L. and A.
Marquiss, Jean Roscoe,	*Monticello,*	General, L. and A.
Marriott, John Minges,	*Delaware, O.,*	Architecture.

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Marsh, Wallace Hickling,	*Marseilles,*	Civil Eng'g.
Martin, William George,	*Champaign,*	General, L. and A.
Maxey, Mima Agnes,	*Carlyle,*	General, L. and A.
Maxwell, Clinton Latshaw,	*Champaign,*	General, L. and A.
Mead, Clarence Eugene,	*Chillicothe,*	Electrical Eng'g.
Melby, James Alexander,	*Chicago,*	Architectural Eng'g.
Meyer, Robert Conrad,	*Gilman,*	Electrical Eng'g.
Miller, Leonard Joseph,	*Sterling,*	Mechanical Eng'g.
Mills, Floyd Earl,	*Mt. Palatine,*	Civil Eng'g.
Montgomery, Amelia,	*Quincy,*	General, L. and A.
Morgan, Stella Webster,	*Burlington, Ia.,*	General, L. and A.
Morrow, Louise,	*Rockford,*	General, L. and A.
Morse, Henry Charles,	*Chandlerville,*	Civil Engineering.
Muhl, Fred Lewis,	*Bloomington,*	Achitectural Eng'g.
Munson, Mary Franklin,	*Chicago,*	General, L. and A.
Murphey, Howard Bruce,	*Champaign,*	Civil Engineering.
Nattinger, John George,	*Ottawa,*	General, L. and A.
Nelson, Emma Ellmentina,	*Rockford,*	Household Science.
Noe, Samuel Rufus,	*Milmine,*	General, L. and A.
Norris, Burton Harry,	*Kewanee,*	Civil Engineering.
Nydegger, Adolph,	*Danville,*	Electrical Eng'g.
Odell, Arthur Buell,	*Morrison,*	Mechanical Eng'g.
Ostrander, Fred Earl,	*Galesburg,*	Civil Engineering.
Paisley, Robert Hughes,	*Irving,*	Agriculture.
Parrett, William Gaylord,	*Newport, Ind.,*	Civil Engineering.
Patterson, Maud May,	*Rochelle,*	Math. and Physics.
Penfield, Albert Charles,	*Rockford,*	Electrical Eng'g.
Perkins, Nelle,	*Vienna,*	General, L. and A.
Peterson, John Frederick,	*Kewanee,*	Civil Engineering.
Polk, John Luther,	*Champaign,*	General, L. and A.
Pope, Karl Dean,	*DuQuoin,*	Political Science.
Popejoy, Lida Elizabeth,	*Lexington,*	General, L. and A.
Post, Raebern Henry,	*Champaign,*	Electrical Eng'g.
Power, William Raymond,	*Champaign,*	Mechanical Eng'g.
Powers, George Augustus,	*Edinburg,*	General, L. and A.
Preston, Clarence Gilbert,	*Dixon,*	Electrical Eng'g.
Price, William Rabor,	*Champaign,*	Prep. to Medicine.
Putney, Nellie Ada,	*LaSalle,*	General, L. and A.
Reef, Augustus Joseph,	*Carbondale,*	Mathematics, L. and A.

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Riddle, Rollo Gaun,	*Mattoon,*	General, L. and A.
Riehl, Anna,	*Alton,*	Household Science.
Riley, George Albert,	*Lewistown,*	Electrical Eng'g.
Roberts, Edith Esther,	*Champaign,*	Library, L. and A.
Roberts, Ralph Ousley,	*Keokuk, Ia.,*	Architecture.
Rodman, Charles Scaman,	*Moweaqua,*	General, L. and A.
Rogers, Nellie,	*Covington, Ind.,*	General, L. and A.
Rohrer, Wilburn Herbert,	*Waverly,*	General, L. and A.
Rosseter, Frank Stuart,	*Austin,*	Civil Engineering.
Roulston, Robert Bennett,	*Chicago,*	Civil Engineering.
Royall, Charles Crecy,	*Clay Center, Kas.,*	General, L. and A.
Rump, Guy Henry,	*Quincy,*	Civil Engineering.
Sale, Edna Marie,	*Urbana,*	General, L. and A.
Salyers, Oswell,	*Monticello,*	General Science.
Samson, Inez Rose,	*Urbana,*	General, L. and A.
Schneck, James Arthur,	*Hot Springs, Ark.,*	General, L. and A.
Scott, Juliet Ann,	*Champaign,*	General, L. and A.
Shankland, Julia Litz,	*Des Moines, Ia.,*	Library, L. and A.
Sheldon, Edna Weaver,	*Urbana,*	General, L. and A.
Shilton, Carlyle Nance,	*Kewanee,*	Prep. to Medicine.
Sides, Aimee May,	*Champaign,*	General, L. and A.
Simpson, Carl William,	*Quincy,*	Civil Engineering.
Singbusch, Arthur Carl,	*Champaign,*	Mechanical Eng'g.
Slocum, Mary Jane,	*Loda,*	General Science.
Slocumb, Maude Stephens,	*Keithsburg,*	General Science.
Smail, Blanche Emily,	*Urbana,*	General, L. and A.
Smith, Charles Henry,	*Metamora,*	General, L. and A.
Smith, Robert Milton,	*Clinton,*	Civil Engineering.
Smith, Vincent Edmund Gillett,	*Canon City, Colo.,*	Agriculture.
Smock, Walter F,	*Decatur,*	Civil Engineering.
Sommer, Alfred,	*Chicago,*	General, L. and A.
Sommer, Clara Louise,	*Chicago,*	General, L. and A.
Sonntag, Mildred Eliza,	*Plainfield,*	General, L. and A.
Stacy, Edward Everett,	*Tuscola,*	General Science.
Staley, Isabel,	*Champaign,*	General, L. and A.
Standard, Alphonso Perry,	*Lewistown,*	Prep. to Medicine.

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Steichen, Lillian,	*Milwaukee, Wis.,*	Library, L. and A.
Stenger, John William,	*Mendota,*	Mechanical Eng'g.
Stephenson, Lewis Alva,	*Redmon,*	Mechanical Eng'g.
Stevenson, Lydia Tallman,	*Monticello,*	General, L. and A.
Stewart, Robert Jaquess,	*Urbana,*	Mechanical Eng'g.
Stipes, Opal,	*Champaign,*	General, L. and A.
Stocking, Lena Keefer,	*Morrison,*	General, L. and A.
Stockmar, Walter Max,	*Blue Island,*	Mechanical Eng'g.
Stone, Charles Newhall,	*Quincy,*	Mechanical Eng'g.
Stookey, Helen Florence,	*Harristown,*	General, L. and A.
Stookey, Marshall Childs,	*Harristown,*	Agriculture.
Stedman, Angeline Jones,	*Champaign,*	General, L. and A.
Sutherland, Walter Edmund,	*Chicago,*	General, L. and A.
Taylor, Elsie Mae,	*Hayes,*	Math. and Astronomy.
Thompson, Anton,	*Squier, N. Dak.,*	Electrical Eng'g.
Thompson, Sherman,	*Champaign,*	Architecture.
Timm, Peter Frederick William,	*Tuscola,*	Electrical Eng'g.
Tombaugh Muron Dealvo,	*Munster,*	Electrical Eng'g.
Toney, Thomas Ellsworth,	*Virden,*	Political Science.
Tonney, George Edward,	*Flora,*	Mechanical Eng'g.
Toops, Claude,	*Champaign,*	Architecture.
Trapp, William Edward,	*Lincoln,*	Agriculture.
Travis, Roy Elmer,	*Assumption,*	Civil Engineering.
Tripp, Harold Frank,	*Quincy,*	General, L. and A.
Trotter, Jessie Elizabeth,	*Champaign,*	Music.
Tubbs, James Arthur,	*Kirkwood,*	General, L. and A.
Tunnell, James Evans,	*Edwardsville,*	General, L. and A.
Turner, Charles Philip,	*Butler,*	Mechanical Eng'g.
Upton, Grace Harley,	*Rochelle,*	Library, L. and A.
Upton, Mabel E,	*Rochelle,*	Household Science.
Utt, Stella Randall,	*Virden,*	General, L. and A.
Van Deventer, Mary Ethel,	*LeRoy,*	General, L. and A.
Vanhorne, George Garret,	*Rockford,*	Electrical Eng'g.
Wade, Fred Alonzo,	*Champaign,*	Prep. to Medicine.
Walcott, Lloyd Vernon,	*Fillmore,*	General, L. and A.
Waldorf, Arthur Louis,	*Mendota,*	Civil Engineering.
Wallace, Charles Emerson,	*Chicago Heights,*	Electrical Eng'g.
Walls, Katheryne Gertrude,	*Champaign,*	Library, L. and A.
Walton, Joseph Clyde,	*Kewanee,*	Civil Engineering.
Warren. Charles Edward,	*Jerseyville,*	Civil Engineering.

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Wasson, Ora Elmer,	*Chrisman,*	Chemistry.
Watkins, Moses Adam,	*Decatur,*	Prep. to Medicine.
Wehmeier, William Henry,	*Alton,*	Electrical Eng'g.
Welles, Miriam Ursula,	*Dover,*	Prep. to Medicine.
Wells, Reginald Ellis,	*Champaign,*	Architecture.
Wheeler, Lynn Murray,	*Downers Grove,*	General, L. and A.
Wheelock, Henry Thomas,	*Moline,*	Mechanical, Eng'g.
White, Caroline Louise,	*Warrensburg,*	General, L. and A.
White, Edna Noble,	*Fairmount,*	Prep. to Medicine.
White, Leila,	*Fairmount,*	General, L. and A.
Wiley, Wallace Kenneth,	*Peoria,*	Electrical Eng'g.
Williams, Mary Edith,	*Newman,*	General, L. and A.
Willis, Edith Charlotte,	*Champaign,*	General, L. and A.
Wilson, LeRoy,	*Princeton,*	Agriculture.
Wilson, Nancy Maude,	*Guthrie,*	General, L. and A.
Wilson, William LeRoy,	*Springfield,*	Civil Engineering.
Woodworth, Metta Edna,	*Champaign,*	General, L. and A.
Worker, Joseph Garfield,	*Rock Island,*	Mechanical Eng'g.
Worrell, Joseph Carl,	*Chili,*	Civil Engineering.
Worthen, Ella Eugenia,	*Warsaw,*	General, L. and A.
Wright, Audrey Lewallyn,	*Virden,*	General, L. and A.
Wright, Clarence Bradley,	*Rockford,*	Mechanical Eng'g.
Wyle, Florence H,	*Waverly,*	Prep. to Medicine.
Yocum, Earl Layton,	*Galva,*	General, L. and A.

SPECIALS

Albrecht, Harry Woolf,	*Delavan,*	Mechanical Eng'g.
Albrecht, William Butler,	*Tiskilwa,*	Political Science.
Anders, Edwin,	*Newark,*	General Science.
Anders, Ellen Permill,	*Newark,*	Music.
Anderson, Charles Edward,	*Tiskilwa,*	Mechanical Eng'g.
Anderson, Florence Marion,	*Mahomet,*	Music.
Arnold, Forest Jackson,	*Bloomington,*	Electrical Eng'g.
Azbill, Ethel Wolcott,	*Indianapolis, Ind.,*	Library.
Bailey, Algernon Rankin,	*Rantoul,*	Civil Engineering.
Baird, William,	*Carthage,*	Art and Design.
Barlow, Lulu,	*Robinson,*	Art and Design.
Bennett, Jennie May,	*Belvidere,*	Music.
Blanchard, Bert,	*Bruce,*	Mechanical Eng'g.
Bloompot, Henry,	*Pekin,*	Civil Engineering.
Bolt, Denny,	*Vandalia,*	Civil Engineering.
Borton, Byron Sarver,	*DeLand,*	General, L. and A.

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Buchanan, Clara Gertrude,	*Champaign,*	General, L. and A.
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Carrithers, Harry Wallace,	*Saunemin,*	Mechanical Eng'g.
Carroll, Sarah Frances,	*San Diego, Cal.,*	Art and Design.
Chester, Edith,	*Champaign,*	Art and Design.
Coffeen, Amy, B.L., 1889,	*Champaign,*	Music.
Conley, John Edward,	*Arcola,*	Civil Engineering.
Cook, Thomas L,	*Mt. Pulaski,*	General, L. and A.
Crathorne, Annie Ellen,	*Champaign,*	General, L. and A.
Craw, Nellie Edna,	*Sadorus,*	Music.
Crawford, George Barnes,	*Champaign,*	Music.
Danely, Nellie Cole, Ph.B., *(Northwestern Univ.),* 1897,	*Champaign,*	Art and Design.
Davis, Ida Belle,	*Bondville,*	General, L. and A.
Davis, Thomas Herman,	*Urbana,*	Agriculture.
Davis, Wilmer Esla,	*Rankin,*	General Science.
Deem, Frank Emery,	*Galva,*	Music.
Derr, Harry Benjamin,	*Champaign,*	General Science.
Dick, Mary Claudine,	*Mahomet,*	Music.
Dillon, Ruth Lillian,	*Sheldon,*	General, L. and A.
Dunlap, Affa Emogene,	*Aurora,*	Music.
Dunspaugh, Mrs. Leonora,	*Buffalo, N. Y.,*	Gen., L. and A.
Ebersol, Elmer Tryon,	*Ottawa,*	General Science.
Eisner, Maurice,	*Champaign,*	General, L. and A.
Engel, Lloyd Edwin,	*Metamora,*	General, L. and A.
Flanigan, Bessie Marie,	*Champaign,*	Music.
Fleming, Marcella Augusta,	*Bement,*	Music.
Fletcher, Mary Pamela,	*Little Rock, Ark.,*	Gen., L. and A.
Forbes, Bertha VanHoesen, B.S., 1896,	*Urbana,*	Music.
Forbes, Winifred,	*Urbana,*	General, L. and A.
Foreman, Herbert Spencer,	*Whitehall,*	General Science.
Fox, Daniel Sigismund,	*Dwight,*	Civil Engineering.
Fraser, Henry Whitman,	*LaSalle,*	Mechanical Eng'g.
Fritz, Herman Henry,	*Monroeville, Ohio,*	Agriculture.
Gaddis, Zoe,	*Bondville,*	Music.
Gearhart, Orville Lee, B.S., 1897,	*Champaign,*	Chemistry.
Gere, Clara,	*Champaign,*	Music.
Gilbert, John Philo,	*Mt. Vernon,*	General Science.
Green, Clarence,	*Lawrenceville,*	General, L. and A.
Hamblen, Rosa Myrtle,	*Etna,*	General, L. and A.

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Haney, Theodore Herman,	*Champaign,*	General, L. and A.
Hanson, Gertrude Lucie,	*Urbana,*	General, L. and A.
Hanson, Martin E,	*Champaign,*	Mechanical Eng'g.
Hauter, Joseph Elmer,	*Tiskilwa,*	General, L. and A.
Henion, Lora Atkins,	*Champaign,*	Music.
Henning, Bert Lawton,	*Steward,*	Electrical Eng'g.
Holder, Vernon Milner,	*Normal,*	Architectural Eng'g.
Hoop, Delpha May, B.S., (*Kansas Agrl. Coll.),* 1891,	*Manhattan, Kas.,*	Lib., L. and A.
Hosford, George Warner,	*Urbana,*	Electrical Eng'g.
Hubbard, Mae Woodworth,	*Urbana,*	Music.
Huber, Morin Emerson,	*Potomac,*	Mechanical Eng'g.
Hueffner, Arthur John,	*Virginia,*	General Science.
Hufschmidt, William Fred,	*Milwaukee, Wis.,*	Arch. Eng'g.
Hughes, Anna,	*Champaign,*	Music.
Hutsler, George Lincoln,	*Urbana,*	Architecture.
Ice, Laura Frances,	*Gifford,*	Music.
Ice, Nellie Gertrude,	*Gifford,*	Music.
Ingersoll, Frank Bruce,	*Chicago,*	Civil Engineering.
Irwin, Walter Sumner,	*Decatur,*	Art and Design.
Jayne, Violet Delille, A.M., *(Univ. of Mich.),* 1896.	*Urbana,*	Music.
Johnston, Ethel Isabel,	*Urbana,*	Music.
Jones, Lynch Terrill,	*Calhoun,*	Mechanical Eng'g.
Joy, Frederick Merrick,	*Princeton,*	Architecture
Kadel, Mike Leuroy,	*Minden, Ia.,*	Agriculture.
Keefer, Lois Bell,	*Warrensburg,*	Art and Design.
Kienzle, Edna Sophia,	*St. Joseph,*	Music.
Knapp, Noah,	*Hindboro,*	General, L. and A.
Koehn, Anna,	*Chicago,*	General, L. and A.
Kraus, William Conrad,	*Galena,*	Mechanical Eng'g.
Kuehlcke, Otto,	*Davenport, Ia.,*	Civil Engineering.
Kuehn, Alfred Leonard, B.S., 1900,	*Urbana,*	Economics.
Latzer, Alice Bertha,	*Highland,*	General Science.
Lindgren, Charles Oscar,	*Virginia*	Mechanical Eng'g.
Lindsay, Frank Merrill,	*Decatur,*	General, L. and A.
McClure, Edgar Bradfield,	*Champaign,*	General, L. and A.
McIntosh, Mabel Charlotte Urquhart,	*Champaign,*	Music.
McKelvey, James Morrison,	*Monmouth,*	Mechanical Eng'g.
Madansky, Max,	*Fairfield,*	Prep. to Medicine.

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Mayo, Josie Abbott,	*Wyanet,*	Music.
Meikle, Mrs. Agnes,	*Pesotum,*	Music.
Meneely, Margaret,	*Champaign,*	General, L. and A.
Middleton, Anthony,	*Champaign,*	General, L. and A.
Miles, Archie L,	*Elmwood,*	Mechanical Eng'g.
Miller, Fred Charles,	*Peoria,*	Architecture.
Miller, Herbert Scholes,	*Canton,*	Architecture.
Moore, Charles Lauren,	*Champaign,*	Music.
Moore, Frank Wesley,	*Oakland,*	General, L. and A.
Moore, Lucy Kate,	*Pesotum,*	Music.
Moore, Marcellus Webster,	*Urbana,*	Music.
Moschel, Louis Conrad,	*Morton,*	General, L. and A.
Mueller, Jacob William,	*Belleville,*	Electrical Eng'g.
Mulliken, Phoebe,	*Champaign,*	Music.
Mykins, Perry H,	*Battle Creek, Mich.,*	Elec. Eng'g.
Needham, John Lowry,	*Neoga,*	Chemistry.
Neville, Mabel Maud,	*Champaign,*	Art and Design.
Noble, Ernest Henry,	*Brocton,*	General, L. and A.
Nuckolls, Minnie,	*Urbana,*	Music.
Outhouse, Fred Myrine,	*Lily Lake,*	General, L. and A.
Palmer, Mrs. Anna Shattuck, B.L., 1891,	*Urbana,*	Music.
Powell, Henry L,	*Mattoon,*	General, L. and A.
Price, N Oma,	*Hayes,*	General, L. and A.
Ragan, Carroll Stewart,	*Neoga,*	Music.
Railsback, Lee Willard,	*Hopedale,*	General, L. and A.
Ratcliff, Harry Eber,	*Vincennes, Ind.,*	Architecture.
Redding, Katherine Agnes,	*Urbana,*	Music.
Reed, Alice Elizabeth,	*Urbana,*	Art and Design.
Renner, Mrs. Ella,	*Urbana,*	Music.
Richardson, Francis Martin,	*Lincoln,*	General Science.
Round, George Arminius,	*Tampico,*	Mechanical Eng'g.
Saylor, Imogean Grace,	*Rensselaer, Ind.,*	Music.
Scheld, Amelia,	*Chicago,*	Art and Design.
Schillinger, Josephine,	*Moline,*	General, L. and A.
Schreiber, Rudolph Ernest,	*Chicago,*	General, L. and A.
Scott, Vera Charlotte,	*Mahomet,*	Music.
Shafer, Allen Andrew,	*Philo,*	General, Science.
Shinker, Lillian Ruth,	*Ludlow,*	Music.
Shoptaugh, Mary Eleanor,	*Grand View,*	General, L. and A.
Shreve, Harry Roy,	*Port Byron,*	Electrical Eng'g.

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Sinclair, James Alexander,	*Kankakee,*	Mechanical Eng'g.
Sloan, Ella,	*Ivesdale,*	General, L. and A.
Smick, Mary Ella,	*Athens,*	Music.
Smith, William John,	*Urbana,*	Electrical Eng'g.
Spink, Charles Raymond,	*Davenport, Ia.,*	Architecture.
Spriggs, John,	*Louisville,*	General, L. and A.
Sutton, William D,	*Urbana,*	Art and Design.
Tackett, Dora Melissa,	*Champaign,*	Art and Design.
Thompson, Gertrude,	*Champaign,*	Music.
Tucker, Walter Clifton,	*Brimfield,*	Electrical Eng'g.
VanHoesen, Janette Cornell,	*Chicago,*	General, L. and A.
Ward, James Elmer,	*Bethany,*	General, L. and A.
Waterman, August Henry,	*Evanston,*	General, L. and A.
Webber, Sue Elizabeth,	*Urbana,*	Music.
Wells, Harry Jarvis,	*LaMoille,*	Agriculture.
White, Charles Hunter,	*Tiskilwa,*	Mechanical Eng'g.
Wilson, John Guy,	*Gays,*	General, L. and A.
Wilson, John Thomas,	*Champaign,*	General, L. and A.
Wise, Lewis W,	*Cerro Gordo,*	General Science.
Wolf, Arthur Alfred,	*Farina,*	Electrical Eng'g.
Wolford, Sadie Wicks,	*Danville,*	Art and Design.
Woods, Riley Fassett,	*LaMoille,*	Electrical Eng'g.
Wright, Ward Ellis,	*Woodstock,*	Mechanical Eng'g.
Yagle, William Frederick,	*Dundee,*	Mechanical Eng'g.
Yates, Thomas,	*Dubuque, Ia.,*	Electrical Eng'g.

SPECIALS IN COLLEGE OF AGRICULTURE, p. 286

Alford, Irving Samuel,	*Sibley.*
Ames, Harvey Nelson,	*Mattoon.*
Anderson, Hervey Henry,	*Chicago.*
Armstrong, Robert Morton,	*Milan.*
Basting, Ferdinand Joseph,	*Yuton.*
Beal, Perry Lee,	*Reed.*
Begeman, George Wesley,	*Elkhorn Grove.*
Bennett, Samuel Augustus,	*Belvidere.*
Bernhard, Susanna Sybil,	*Shumway.*
Bonnell, William Lee,	*Elondale.*
Bronson, Bertha Harriet,	*Urbana.*
Bronson, Eugene Victor,	*Urbana.*
Bushman, Virgil Earl,	*Milledgeville.*
Callaway, Leonard Wyeth,	*Tuscola.*
Camp, George Russell,	*Harristown.*

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Carmichael, Berton Eugene,	*Rochelle.*
Carr, Henry Beaty,	*Lis.*
Center, Orlo Dorr,	*Grand Ridge.*
Clapp, Ivan Burr.	*Grand View.*
Clay, John Lawson,	*Galesburg.*
Coleman, Clyde Bestor,	*New Windsor.*
Constant, Harvey Nathaniel,	*Illiopolis,*
Constant, Irwin John,	*Dawson.*
Crane, Flosse Sylvia,	*Urbana.*
Creamer, William Carl,	*Tolono.*
Culver, Carl Albert,	*Athens.*
Dewey, Henry Eugene,	*Mason.*
Dille, Charles Ernest,	*Villa Ridge.*
Duncan, Fred Thomas,	*Seaton.*
Dunlap, Nora Betz,	*Savoy.*
Eckhardt, William George,	*Buffalo Prairie.*
Endicott, Robert Burns,	*Villa Ridge.*
Ewald, John Jacob,	*Belmont.*
Fairchild, Sherman DeWitt,	*Tower Hill.*
Finley, Joseph Orton,	*Oncida.*
Flagg, David Ross,	*Clarence.*
Forsythe, John,	*Elwood.*
Fulton, Eugene,	*Gibson City.*
Gilbert, Charles Henry,	*Armstrong.*
Hartzell, John Clifford,	*Mason City.*
Hedges, Samuel Rice,	*Urbana.*
Hendrick, Lewis Carlton,	*Milledgeville.*
Hill, Arthur Howard,	*Dundee.*
Howard, Wallace Lawton,	*Sheffield.*
Howe, Ralph Barnard,	*Urbana.*
Issert, Jules Philip,	*Manteno.*
Jenkins, Elbert Arthur,	*Tower Hill.*
Jones, James Henry,	*El Dara.*
Kreiling, Christian,	*Bishop.*
Kuster, Arthur,	*Mahomet.*
Ladage, Fred William,	*Woodside.*
Large, Harry,	*Millersville.*
Lemon, Louis,	*Galesburg.*
Lindsey, Norman Wert,	*Samoth.*
Lingenfelter, Lee Everett,	*Mt. Carmel.*
Logan, Clarence Chester,	*Flora.*
McGrath, Sylvester Joseph,	*Warrensburg.*

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Marsh, Ralph George,	*Huntley.*
Meier, Hermann Ernest,	*Woodworth.*
Miller, William Edward,	*Tower Hill.*
Mills, James Bagwell,	*Clay City.*
Miner, Aaron W,	*Adair.*
Mitchell, Maurice Finley,	*Oneida.*
Moffitt, Minor,	*Milan.*
Montgomery, William Henry,	*Aledo.*
Neff, Martin Luther,	*Petersburg.*
Null, Samuel Franklin,	*Blandinsville.*
Oakes, Arthur Manning,	*Metropolis.*
Perkins, Harry L Bernorn,	*Beaconsfield.*
Pittman, Elmer Deborous,	*Mahomet.*
Rankin, William Jacob Royal,	*White Heath.*
Rector, John Fred,	*Smithfield.*
Richardson, George Mayo,	*Williamsville.*
Ruffner, Lester Lee,	*Mason.*
Sanford, Wilbert Hoyt,	*Murrayville.*
Schermerhorn, May,	*Kinmundy.*
Schuppel, Henry Charles,	*Barclay.*
Scott, Gilbert Wilson,	*Franklin.*
Shaw, Guy Loren,	*Summer Hill.*
Shinn, James Rickitts,	*Mattoon.*
Southwick, Frank Eugene,	*Odell.*
Spence, William D,	*Fairbury.*
Stebbins, Roy,	*Summer Hill.*
Stitt, William Berryman,	*Berlin.*
Stitt, Harry Wiley,	*Alpha.*
Stocks, Harry Blaine,	*Eleroy.*
Taylor, Albert Berry,	*Normal.*
Temple, Ralph William,	*Elida.*
Thompson, Clarence,	*Champaign.*
Thompson, James Arthur,	*Layton.*
VanMeter, Anna Roberta	*El Paso.*
Viall, Frank Lester,	*Manteno.*
Wade, Albert Edward,	*Decatur.*
Walcher, Charles Edwin,	*Millersville.*
Warne, John Henry,	*Batavia.*
Watson, Clarence Charles,	*Woodstock.*
Wetzel, Adolph Jacob,	*Alhambra.*
White, Earle Archibald,	*Loon Lake.*
Whiteford, Milton,	*Manito.*

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Williams, Gardner Rogers,	*Putnam.*
Williams, Myron Burke,	*Evanston.*
Wing, DeWitt Cosgrove,	*Boonville.*
Winter, J W,	*Wenona.*
Winterberger, Ralph,	*Junction.*
Wise, John Roy,	*Savoy.*
Wolf, Edd,	*Farina.*
Wood, Clifton Joseph,	*Friendsville.*
Worthen, Edmund Louis,	*Warsaw.*
Ziegler, Wilfred Ivanhoe,	*Clinton.*

SUMMER TERM (p. 178)

Ballard, Pearl Lena,	*Normal.*
Bassett, Herbert,	*Yorkville.*
Beinlich, Bernhard August,	*Barrington.*
Bell, Arthur Timothy,	*Azotus.*
Boyd, Edward Parkman,	*Aledo.*
Braucher, Herbert Hill, B.S., 1894,	*Lincoln.*
Breitenbach, Adolph Henry,	*Mascoutah.*
Brundage, Martin Dennan,	*Malta.*
Bruner, Francis Gilbert,	*Dwight.*
Buchanan, James William,	*Charleston, Ind.*
Burnett, Addie Elizabeth,	*Peoria.*
Caldwell, Emma,	*New Holland.*
Calhoun, Henrietta Anne,	*Champaign.*
Carr, George Russell,	*Oak Park.*
Chapin, Edward Pierce,	*Champaign.*
Chapman, Walter Joseph,	*Manchester.*
Clark, Alice Hartzel,	*Urbana.*
Clark, Lulu,	*Crossville.*
Coffman, George Benjamin,	*Chillicothe.*
Collins, Edra,	*Champaign.*
Conrad, Philip Arthur,	*Monticello.*
Craigmile, Alexander Homer,	*Gifford.*
Crossland, George Marshall,	*Sheldon.*
Crosthwait, George Ashley,	*Urbana.*
Curtiss, Albert Root,	*Champaign.*
Daugherty, Anna Elizabeth,	*Sullivan.*
Davis, Gertrude Pearl,	*Olney.*
Davis, Horatio S,	*Versailles.*
Davis, Wilmer Esta,	*Rankin.*
DeMotte, Roy James,	*Urbana.*

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Draper, Edwin Lyon,	*Urbana.*
Earl, Claude Elwood,	*Centerville.*
Eckman, John Joseph,	*Wellington, Ohio.*
Eidmann, Gustav Herman,	*Mascoutah.*
Ellis, Herbert Wesley,	*Gifford.*
Fairchild, Sherman DeWitt,	*Tower Hill.*
Farrell, Mattie,	*Delavan.*
Fay, John Carl, A.B., *(Berea Coll.)*, '99,	*Champaign.*
Fitzgerald, Sadie Josephine,	*Ivesdale.*
Flynn, Mamie Agnes,	*East St. Louis.*
Fullerton, Hugh Regnier,	*Havana.*
Gallaher, Lewis Theron,	*Mt. Palatine.*
Garvin, John Brewer, B.S., 1886,	*Denver, Colo.*
Gayman, Myrtle,	*Champaign.*
Gibbs, Laura Russell,	*Champaign.*
Gilkerson, Aletha,	*Urbana.*
Gordon, Joseph Hinckley,	*Vandalia.*
Graham, David Abram,	*Illiopolis.*
Graham, James Edward,	*Illiopolis.*
Graves, Luther Glen,	*Adair.*
Grote, Mae Belle,	*East St. Louis.*
Hall, Elizabeth T, A.B., 1900,	*Urbana.*
Hall, John Calvin, A.B., 1900,	*Urbana.*
Hammers, Edna Rose,	*Champaign.*
Hammers, Jesse,	*Champaign.*
Harris, William,	*Moweaqua.*
Harrison, Maud Louise,	*Leland.*
Hartrick, Louis Eugene,	*Urbana.*
Heller, Opal, M.L., 1899,	*North Yakima, Wash.*
Hinkle, Ida May,	*Champaign.*
Hissong, John Logan,	*Urbana.*
Hord, Adeline,	*Murphysboro.*
Horn, Franklin Luther,	*Stanford.*
Horner, Harlan Hoyt,	*Cerro Gordo.*
Howell, Carrie Barnes,	*Urbana.*
Hurlbert, Flora Dorothy,	*Morrison.*
Jacobs, Manuel Joseph,	*Champaign.*
Jarvis, Mary Louise,	*East St. Louis.*
Johnson, Ananias Parnell,	*Rantoul.*
Jones, Warren,	*Whitehall.*
Keusink, Wilhelmina Minnie,	*Champaign.*
Kinzel, Josie Ethel,	*Oakland.*

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Kreisinger, Henry,	*Champaign.*
Leal, Rosa Belle,	*Urbana.*
Lucas, Corda,	*Champaign.*
McCafferty, Nellie,	*Arcola.*
McGahey, Leah Catherine,	*Olney.*
McGinley, William,	*Moweaqua.*
Marion, Rose A,	*East St. Louis.*
Marker, George Edward,	*Onarga.*
Marsh, Albert LeRoy,	*Pana.*
Martin, John Madison, A.B., 1896,	*Pana.*
Meneely, Margaret,	*Champaign.*
Miller, Minnie Gertrude Josephine,	*Cairo.*
Morgan, Ora Sherman,	*Hampshire.*
Morris, Charles Myers,	*Rantoul.*
Morris, Minnie Ellen,	*Champaign.*
Myers, Jesse J,	*Green River*
Otwell, Allen Meade, B.S., 1899,	*Plainview.*
Piatt, Herman S, A.M., 1892,	*Urbana.*
Pletcher, Nuba Mitchel,	*Hoopeston.*
Power, Margaret,	*Pontiac.*
Radebaugh, John Wesley,	*Indianola, Iowa.*
Raibourn, James Edward,	*Farmer City.*
Readhimer, Jerome Edward,	*Normal.*
Reasoner, Clara Beck,	*Seymour.*
Redman, Nora Marie,	*Cairo.*
Rhoads, Ida Ruth,	*Champaign.*
Richardson, Francis Martin,	*Lincoln.*
Richardson, Robert Earl,	*Shipman.*
Robinson, Lewis Archibald, A.B., 1898,	*White Post, Va.*
Schulte, Mabel,	*Hopedale.*
Scudder, Harry Disbro,	*Chicago.*
Sloan, Ella,	*Ivesdale.*
Smail, Blanche Emily,	*Urbana.*
Stanley, Otis Orion,	*Champaign.*
Taylor, Fred Nehemiah,	*Aledo.*
Timmons, Anna M,	*Oakland.*
VanCleve, John Elbert,	*Blue Mound.*
Waldo, Marie L, B.S., 1900,	*Champaign.*
Wells, David Hopkins,	*Elwin.*
Wettengel, Henry Philip,	*Maquon.*
Woodmansee, Ralph Collum,	*Champaign.*
Wright, Gaius Emory,	*Champaign.*
York, Charles William,	*Ogden.*

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SATURDAY TEACHERS' CLASS—1900-1901

Booker, Helen Ethel,	*Champaign.*
Ewalt, Grace,	*Champaign.*
Gordon, George Oscar,	*Urbana.*
Hissong, John Logan,	*Urbana.*
Rhoads, Ida Ruth,	*Urbana.*
Sparks, George,	*Urbana.*
Ware, Bertha,	*Champaign.*
White, Lena Lee,	*Urbana.*
Wilson, Lucy N.,	*Champaign.*
Wright, Gaius Emory,	*Champaign.*
Young, Harry Harrison,	*Bondville.*
Young, Pliny Morgan,	*Urbana.*

COLLEGE OF LAW

THIRD YEAR

Adsit, Bertram Wilson,	*Wellington.*
Arnold, William Wright,	*Robinson.*
Boyd, John William,	*Rantoul.*
Coffman, Henry Augustus,	*Champaign.*
Crouch, William Liebrick,	*Rozetta.*
Elder, Roy Samuel,	*Streator.*
Evans, Waldo Carl,	*Danville.*
Frahm, Hattie Belle,	*Tuscola.*
Hall, Arthur Raymond,	*East Lynn.*
Harker, George Mifflin,	*Carbondale.*
Holmes, Frank Hamilton,	*North Henderson.*
Howard, Joseph,	*Urbana.*
Humphry, Wallace George,	*Hamilton.*
Lamet, Louis Harman,	*Warsaw.*
McCartney, William Priestley, M.S., 1900,	*Urbana.*
McCollum, Harvey Darling,	*Louisville.*
Perkins, Frederic Allen,	*Canton.*
Remann, Frederick Gordon,	*Vandalia.*
Sherman, William Horace,	*Sullivan.*
Stevenson, Amos Milton,	*Ottawa.*
Thompson, George Mershon,	*Bement.*
Tunnicliffe, John James, Jr.,	*Galesburg.*

SECOND YEAR

Boggs, Harry Hurd,	*Galesburg.*
Boyer, Harry Bernard,	*Altamont.*
Cairns, David Gemmell,	*Troy Grove.*

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Garrett, Richard Pratt,	*Delavan.*
Hetherington, Benjamin William,	*LaSalle.*
Hughes, Samuel Kelso,	*Champaign.*
Jones, Guy Raymond,	*Tuscola.*
Jones, Henry Leonard,	*Delavan.*
Kiler, William Henry, A.B., 1897,	*Urbana.*
Kingsbury, James Thompson, A.B., 1899,	*Pinkstaff.*
Lego, Lulu Mackintosh,	*Urbana.*
Miller, Thomas Henry,	*Macomb.*
Morrisey, Fay,	*Champaign.*
Rhoads, Horace Adams, A.B., 1899,	*Champaign.*
Sheldon, Carl Edmunds, A.B., 1899,	*Sterling.*
Siegfriedt, Thorwald Adolf Arthur,	*Davenport, Ia.*
Stern, Nathan,	*Champaign.*
Stipes, Royal Arthur,	*Champaign.*
Switzer, Robert Mortimer, A.B., *(Knox Coll.)*, 1899,	*Galesburg.*
Wyne, Ervin Evermont,	*Macomb.*

FIRST YEAR

Allen, Lawrence Thompson,	*Hoopeston.*
Barrett, Charles Vincent,	*Chicago.*
Bell, Oscar Clifford,	*Biggsville.*
Biossat, Harry Armand,	*Chicago.*
Birdzell, Luther Earle,	*Champaign.*
Casey, Charles Nicholas,	*Chicago.*
Chamberlin, Charles Cory,	*Hoopeston.*
Clifford, Wm. Edward Cassimer,	*Champaign.*
Clock, Sherwood Alonzo,	*Geneva, Ia.*
Cresap, Fred,	*Urbana.*
Davis, Horatio S,	*Versailles.*
Enochs, Delbert Riner, A.B., 1898,	*Champaign.*
Fishback, Clyde Michael,	*Olney.*
Fuller, Miles Chineweth,	*Peoria.*
Gavin, John Francis,	*Chicago.*
Graham, Hugh Joseph, A.B., 1900,	*Springfield.*
Gridley, Leslie Henry,	*Savanna.*
Grove, Rolla Burdette,	*Ottawa.*
Hancock, Howard Logan,	*Newman.*
Hauter, Andrew Edgar,	*Tiskilwa.*
Larson, Nels Alfred,	*Moline.*
McIlvaine, Brown Ervin,	*Tuscola.*
Martin, James Walter, Jr.,	*Champaign.*

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Martin, James Walter, Jr.,	*Wilmington.*
Martin, Robert William,	*Wilmington.*
Mathews, Clyde Milton.	*Urbana.*
Northcott, Nathaniel Dresser,	*Greenville.*
Pettyjohn, James William,	*Farmington.*
Pollard, Charles Robert,	*Delphi, Ind.*
Poorman, Arthur Garfield,	*W. Union.*
Reniff, Ernest Chamberlain,	*Amboy.*
Robinson, James John,	*Marshall.*
Saunders, Thomas Earle,	*Ridgefarm.*
Seymour, Roy Vincent.	*Dwight.*
Shepherd, Homer,	*Lovington.*
Stahl, Garland,	*Elkhart.*
Ward, Robert Russell,	*Benton.*
Webb, Roy Dayton,	*Houston, Tex.*
Wiley, Frank Rudolph,	*Allenville.*
Williams, Walter Winslow,	*Herrin.*
Wood, Harvey Edgerton, A.B., 1900.	*Joliet.*
Woods, William Francis, A.B., 1900,	*Urbana.*
Wright, Will Clifford.	*Greenville.*

SPECIALS

Allen; John Newell,	*Hoopeston.*
Colp, Leonard Allen,	*Carterville.*
Freeman, Simeon Harrison.	*Urbana.*
Hartline, Herman Eugene,	*Anna.*
Jenkins, Charles Willard,	*Sullivan.*
Mell, John Deloss,	*San Jose.*
Monroe, Albert Folsom,	*Bloomington.*
Ogden, Charles Lewis,	*Cameron.*
Robinson, William Ross,	*Macomb.*
Stewart, William Bowen,	*Mason City.*
Stratton, Isaac Harry,	*Toulon.*
Van Devort, Paul Raymond,	*Tiskilwa.*
Wesner, William Albert,	*Richwoods.*
Wright, William Wilberforce, Jr..	*Toulon.*

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COLLEGE OF MEDICINE

(COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO)

SENIOR CLASS

Alexander, Eugene S.,	*Franklin, Ind.*
Amerson, William Henry, M.D., *(Chicago Homeopathic)*, 1890,	*Chicago.*
Ames, Andrew James,	*Minneapolis, Minn.*
Apfelbaum, David,	*Chicago.*
Baumann, F., A.M., Ph.D., *(Univ. of Konigsberg)*, 1893,	*Chicago.*
Bechtol, Charles Orville, A.B., *(Indiana Univ.)*, 1898,	*Huntington, Ind.*
Bennett, Henry Sumner,	*Moline.*
Beyer, Arthur Edwin, Ph.G., *(Northwestern Univ.)*, 1896,	*Edgewood, Ia.*
Billig, Geo. W., M.D., *(Bennett Medical Coll.)*, 1898,	*Forreston.*
Birk, John W.,	*Bucyrus, O.*
Boss, J. H.,	*Plymouth, Ind.*
Bracken, George Francis,	*Lemont.*
Bradfield, J. Harvey,	*LaHarpe.*
Buechner, Frederick E. A., Ph.G., *(Univ. of Ill.)*, 1897,	*Chicago.*
Burke, Edward Wilbur,	*Iowa Falls, Ia.*
Burt, Charles W., B.S., *(Drake Univ.)*, 1896.	*Valley Junction, Ia.*
Buss, Francis J.,	*Chicago.*
Cameron, Warren L.,	*Jacksonville, Oregon.*
Carpenter, Cora White,	*Glenwood Springs, Colo.*
Chassell, John Langdon,	*Iowa Falls, Ia.*
Church, Elmer E.,	*La Fayette.*
Clark, Leslie W.,	*Galesville, Wis.*
Conway, H. P.,	*Elroy, Wis.*
Corbett, George W., Ph.G., *(Northwestern Univ.)*, 1890,	*Plymouth, Wis.*
Corbus, B. Clarke,	*Chicago.*
Cory, Walter B.,	*Viroqua, Wis.*
Coumbe, Warner R.,	*Muscoda, Wis.*
Coy, Warren Deweese, M.D., *(Eclec. Med. Institute, Cincinnati)*, 1897,	*Canfield, O.*

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Culver, Louie L., *Sandwich.*
Cunningham, William D., A.B., *(Grove City Coll.)*, 1897, *Grove City, Pa.*
Cupler, R. C., Ph.G., *(Northwestern Univ.)*, 1896, *Chicago.*
Davis, Edward Griffith, *Chicago.*
Dennert, Frank, *Dubuque, Ia.*
Denny, Alden Ray, Ph.B., *(Univ. of Iowa)*, 1898, *Burlington, Ia.*
Dethlefsen, George, *Chicago.*
Diven, George R., *Anderson, Ind.*
Dodson, Charles A., *Litchfield.*
Dohrmann, George, *Chicago.*
Domer, Walter A., B.S., *(Univ. of Wisconsin)*, 1897, *Chicago.*
Donkle, A. DeF., Ph.G., *(Univ. of Wisconsin)*, 1898, *Madison, Wis.*
Dwyer, John Condit, *Chicago.*
Eberhart, Noble M., M.S., *(Hedding Coll.)*; M.D., *(Bennett Medical Coll.)*, 1894, *Chicago.*
English, E. G., *Arcadia, Wis.*
Ewers, Joseph Bernard, *Effingham.*
Fernow, J. A. W., Ph.G., *(St. Louis Coll. of Pharmacy)*, 1883, *St. Louis, Mo.*
Frank, Mortimer, S.B., C.E., *(Mass. Inst. Tech.)*, 1897, *Chicago.*
French, G. Marion, *Danville.*
Fukola, Charles, *Vienna, Austria.*
Galloway, George, *Beaverton, Ont., Can.*
Garnett, Isabella M., *Chicago.*
Garraghan, Edward Francis, A.B., *(St. Ignatius Coll.)*, 1895, *Chicago.*
Goldblum, George Joseph, *Minneapolis, Minn.*
Goldblum, Jacob, *Minneapolis, Minn.*
Gorrell, Talbot J. H., *Chicago.*
Gould, Henrietta, *Chicago.*
Gustafson, Joseph Ansley, *Galesburg.*
Haan, George W., *Chicago.*
Hannon, Horace Blake, Ph.G., *(Univ. of South)*, 1895, *Cairo.*

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Hanshus, J. William., Ph.G., *(Northwestern Univ.)*, 1897, *Chicago.*
Heilman, Ernest S., *Ida Grove, Ia.*
Heintz, Edward Louis, Ph.G., *(St. Louis Coll. of Pharmacy)*, 1898, *Ottawa, Kas.*
Henbest, George Murray, *Ft. Atkinson, Wis.*
Hess, William Clarence, *Yale, Ia.*
Hews, Lewis D., *Rockwell City, Ia.*
Hill, Emma Linton, M.D., *(Kas. Med. Coll.)*, 1895, *Oswego, Kas.*
Hoermann, Bernhard Alfred, A.B., *(Northwestern Univ.)*, 1896, *Watertown, Wis.*
Hornbach, William P., *Carroll, Ia.*
Howe, Frank Stewart, B.S., *(Geneva Coll.)*, 1898, *Industry, Pa.*
Hoxsey, Robert Patton, B.S., *(Doane Coll.)*, 1893, *Chicago.*
Hubbard, Chester W., *Cedar Rapids, Ia.*
Hunt, Hiram H., *Independence, Ia.*
Irish, Henry Eugene, *Jackson, Mich.*
Jacobs, I. M., *Perth, Kas.*
Johnson, Albert C., *Horace.*
Johnson, C. C., *Wilton Junction, Ia.*
Jordan, M. S., *Grand Mound, Ia.*
Jungels, William W., *Dubuque, Ia.*
Kaeser, Albert Fred, B.S., *(Univ. of Ill.)*, 1898, *Highland.*
Kellogg, James Rossiter, *Portage, Wis.*
Kennedy, Josie C., *Rochelle.*
Kerrigan, George P., *Chicago.*
Kinder, Roscoe G. W., *Elgin.*
Kisecker, David Edgar, *Greencastle, Pa.*
Koch, Wesley A., *Pekin.*
Kubicek, Albert Charles, M.D., *(Bennett Med. Coll.)*, 1899, *Chicago.*
Lampe, Henry G., *Chicago.*
Lanting, D. B., *Drenthe, Mich.*
Lemon, Herbert K., M.D., *(Hahnemann Coll.)*, 1899, *Chicago.*
Lennon, Aloysius Joseph, *Joliet.*
Leonard, Henry Sylvester, A.B., *(Miami Univ.)*, 1898, *Liberty, Ind.*

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Liggitt, Flemming L., *Chicago.*
Ling, Frank Byre, *Chicago.*
Little, Z. J., *Osage, Kas.*
Lockhart, Carl Wright, Ph.G., *(Northwestern Univ.)*, 1898, *Elo, Wis.*
Loope, Frank, *Bessemer, Mich.*
Lorch, Geo. J., Ph.G., *(Chicago Coll. of Pharmacy)*, 1895, *Independence, Wis.*
Lowenrosen, Armin, *Chicago.*
Luehrs, Henry E., *Hayton, Wis.*
McAuliffe, Andrew F., *Chicago.*
McCall, Frank B., D.V.M., *(Iowa State Vet. Coll.)*, 1893; M.D., *(Harvey Med. Coll.)*, 1900, *Chicago.*
McCall, Harry Kenyon, *Fort Dodge, Ia.*
McClellan, Clarence, D.V.S., *(Ontario Vet. Coll.)*, 1891, *Greenwood, Ind.*
McCoy, William Merrill, *Clinton, Ia.*
McDonald, Robert J., *Beaverdam, Wis.*
McDowell, W. D., B.S., *(Monmouth Coll.)*, 1886, *Monmouth.*
McDowell, William O., *Waterloo, Ia.*
McGuinn, James J., *Rock Island, Ill.*
McPherson, Warren G., *Toledo.*
Major, Will, B.S., *(Eureka Coll.)*, 1896, *Eureka.*
Martin, H. Ralph, *Bement.*
Martin, Winfred B., *Chicago.*
Maxwell, John C., *Sterling.*
Meadows, Lawrence Harland, *Waverly Junction, Ia.*
Meyer, Edward F., M.D., *(Jenner Med. Coll.)*, 1900. *Chicago.*
Morris, Robert Lyman, *Maroa.*
Morton, Frank R., *Chicago.*
Nelson, Engelbrecht, *Chicago.*
Newman, William Manning, *Albert Lea, Minn.*
Noble, Charles M., *Chicago.*
Noland, Philip D., M.D., *(Ky. School of Med.)*, 1888, *Kouts, Ind.*
Novak, Anna F., M.D., *(Bennett Med. Coll.)*, 1895, *Chicago.*
Oliver, Clifton I., *Gilbert, Ia.*
Orcutt, Dwight Chapman, *Arcola.*

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Ottersbech, Carl, *Waken Ryeinland.*
Palmer, John M., *Milton, Wis.*
Parker, William R., Ph.G., *(Northwestern Univ.)*, 1889, *Dixon.*
Parry, Ivan Arthur, *Mankato, Minn.*
Petersen, Hans P. C., A.B., Ph.G., M.D., *Chicago.*
Petry, Franklin, *Beaver Dam, Ind.*
Polson, Nina D., *Laclede, Mo.*
Pratt, Irene Robinson, *Chicago.*
Rhodes, Ora M., B.S., *(Univ. of Ill.)*, 1898, *Bloomington.*
Rich, Katharine Brainerd, *Chicago.*
Ridenour, Joseph Elmer, *Garrison, Ia.*
Ringo, G. Roy, A.M., C.E., *(Univ. of Neb.)*, 1898, *Springfield, Neb.*
Robertson, W. F., *Chicago.*
Rolfs, Theodore H., *Milwaukee, Wis.*
Rowlands, Lloyd, M.D., *(Chicago Homeo. Med. Coll.)*, 1898, *Chicago.*
Ruge, Edward C., *Chicago.*
Ryon, Ralph M., *Streator.*
Sage, Edward D., *Gobleville, Mich.*
Sawyer, Francis B., M.D., *(Starling Med. Coll.)*, 1892, *Marion, O.*
Scholtes, Theodore William, *Read's Landing, Minn.*
Scofield, Charles James, *Chicago.*
Seifert, Mathias J., *Chicago.*
Severson, William Reynolds, *Kankakee.*
Sexton, Ira J., *Chicago.*
Shanks, James W., *Grand Rapids, Mich.*
Shaw, Robert H., *Lyndon.*
Sherwood, Hauphrey H., Ph.G., *(Northwestern Univ.)*, 1894, *Chicago.*
Shook, William E., *Auburn, Neb.*
Smedley, Irene, A.B., *(Central Univ., Pella, Ia.)*, *Nashua, Ia.*
Smith, James T., *Chicago.*
Smith, H. E., *Ithaca, Mich.*
Soegaard, Erik, *Christiania, Norway.*
Sommers, Julius C., *Madison, Wis.*
Steckle, Allen C., *Freeport, Mich.*
Sternberg, Walter A., *Des Moines, Ia.*
Stettauer, Joseph Lewis, *Chicago.*

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Stilwill, Hiram R., M.D., *(Washington Univ., Med. Dept.).* — *Tyndall, S. Dak.*
Stober, Alvin Martin, — *Greene, Ia.*
Storck, William, Ph.G., *(Chicago Coll. of Pharmacy),* 1889. — *Chicago.*
Streich, Edwin A., Ph.G., *(Northwestern Univ.),* 1898, — *Oshkosh, Wis.*
Struthers, Herbert R., Ph.G., *(Chicago Coll. of Pharmacy),* 1893, — *Chicago.*
Talmage, George G., — *Brushy Prairie, Ind.*
Taylor, Lucius Lorin, — *Waupun, Wis.*
Thorwick, Martha Guvine, — *Chicago.*
Tillmont, C. P., — *New Bremen, N. Y*
Treacy, Frederick A., — *Aurora.*
Turner, Agnes, — *South Bend, Ind.*
Turner, D. Ashley, — *Delamar, Nev.*
Ulrich, Julius Hirsch, Ph.G., *(Pa. Coll. of Pharmacy),* 1895, — *Peoria.*
Urquhart, Roy Thomas, — *South Bend, Ind.*
Van Horne, James A., — *Chicago.*
Vesting, Victor I., A.B., *(Augustana Coll.).* 1895, — *Ludington, Mich.*
Wallace, Franklin Lamphere, — *Chicago.*
Wallen, Vera W., — *Chicago.*
von Wedelstaedt, Bismark, — *St. Paul, Minn.*
Wells, William B., A.B., *(Milton Coll.),* 1896, — *Milton, Wis.*
Wheat, Fred Caldwell, B.S., *(Cornell Coll.),* 1898, — *Mt. Vernon, Ia.*
Willing, Amalie Elizabeth, — *La Crosse, Wis.*
Wiltfong, Charles O., — *Chicago.*
Windrow, Mrs. Anna S., — *Chicago.*
Wright, Charles E., V.S., *(Ontario Veterinary of Toronto Univ.),* — *Sterling.*
Yelton, Winifred A., — *Yale.*
Zabokrtsky, Joseph, — *Walker, Ia.*

JUNIOR CLASS

Aaron, William Hubert, — *Big Neck.*
Albright, Jacob Levi, — *Lena.*
Barron, Anna Esther, — *Chicago.*
Bartholomew, Philip Henry, — *Pittsburg, Pa.*
Bayer, William Henry, — *Honey Creek, Wis.*

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Beam, J. Albert, A.M., A.B., *(Univ. of Wooster)*, 1892, *Chicago.*
Beebe, Orville E., *Kankakee.*
Benedict, Charles C., *Eagle Grove, Ia.*
Bennett, Louis Jerome, *Oregon, Wis.*
Bice, Clyde William, *Perry, Ia.*
Boe, Alfred Nels, Ph.G., *(Chicago Coll. of Pharmacy)*, 1887, *Chicago.*
Borden, Frank R., Ph.G., *(Northwestern Univ.)*, 1896, *Plainfield, Wis.*
Bothne, Erling A., A.B., *(Luther Coll.)*, 1896, *Chicago.*
Breid, Jacob, A.B., *Trenton, Mo.*
Breid, Mrs. Jacob, *Trenton, Mo.*
Brown, Josiah Scott, *Chicago.*
Brown, R. E., *Washington, O.*
Brownstein, Bernard, *Chicago.*
Budan, A., *Chicago.*
Bundy, C. D., A.B., *(Ill. Wesleyan Univ.)*, 1899, *Iroquois.*
Burnham, Clarence Martin, *Watseka.*
Burns, Elizabeth V. Brothers, *Decatur, Ind.*
Burns, Floyd W., *St. Paul, Minn.*
Carr, James Gray, A.B., *(Ohio State Univ.)*, 1897, *Chicago.*
Campbell, Fredric A., *Waverly.*
Campbell, Joseph Howard, *Danville, O.*
Cain, Clark Leon, *Unity, Wis.*
Clarke, Harry P., *Cairo.*
Cleary, John H., *Kenosha, Wis.*
Clemons, E. Jay, *Aberdeen, S. Dak.*
Coates, Lintsford B., *Chicago.*
Cobb, H. A., *Ida Grove, Ia.*
Colburn, J. A., *Chicago.*
Collins, Charles D., *Milwaukee, Wis.*
Conant, Philo Bierce, *St. Joseph, Mich.*
Conitz, Leopold, *Wanatah, Ind.*
Corcoran, Edward A., *Postville, Ia.*
Cornell, J. Frank, *Logansport, Ind.*
Court, Harry M., *Buffalo, N. Dak.*
Culver, Charles Morton, *Chicago.*
Curtis, L. Frank, *Mt. Pulaski.*

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Dalager, Norman O., *Austin, Minn.*
Davis, Charles Johnson, *Waupaca, Wis.*
Day, Harriet March, *Moweaqua.*
Dean, Joseph, Jr., *Madison, Wis.*
Dietken, Henry C., *Omaha, Neb.*
Dike, Charles Eugene, *Spring Prairie, Wis.*
Dittmann, George C., Ph.G., *(Univ. of Ill.)*, 1897, *Chicago.*
Dorn, Charles A., *Waterville, Minn.*
Dvorsky, B. J., *Chicago.*
Emerson, Arthur Veron, *Rochester, Minn.*
Everett, Henry H., *Chicago.*
Faeth, Victor P., *Bucyrus, O.*
Farnham, Alford J., *Traer, Ia.*
Fisher, Evelyn Battelle, Ph.B., *(Iowa Coll.)*, 1898, *Monroe, Ia.*
Ford, H. G., *Adel, Ia.*
Forkin, William P., *Chilton, Wis.*
Freeman, Nacoochee Augusta, *Chicago.*
French, Wilbur Maynard, *Lancaster, Mo.*
Fuller, Francis Elmer, *Adrian, Mich.*
Garrett, Emmett A., *Peoria.*
Garrett, John D., A.B., *(Miami Univ.)*, 1898, *Bell, O.*
Gibbs, Joseph Addison, *Chicago.*
Glynn, Charles Edward, *Long Grove, Ia.*
Grabow, Paul Ernest, *Oak Park.*
Graham, Archie James, *Gallipolis, O.*
Greene, Mary Emily, *Charlotte, Mich.*
Groos, John O., *Escanaba, Mich.*
Gulick, Clyde Denney, B.S., *(Univ. of Ill.)*, 1897, *Champaign.*
Hahn, L. A., *Canton.*
Hamley, E. C., *Chicago.*
Hammers, Lewis J., *Chicago.*
Harroun, William A., *Minneapolis, Minn.*
Harter, Virgil H., *Stronghurst.*
Haynes, Benjamin Hubert, *Estherville, Ia.*
Heller, William H., *Marcus, Ia.*
Henderson, Maurice L., *Moscow, Ia.*
Herrington, Charles Warren, *Madison, Wis.*
Hicks, J. Calvin, *Polo.*

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Holmes, Edward Marcellus, *Chicago.*
Holmes, John Montell, *Monticello.*
Hoopes, Fred Clifford, *Pickrell, Neb.*
Hornibrook, Freeman H., *Cherokee, Ia.*
Howard, Glenn A., *Columbus, Wis.*
Hyde, David Lancaster, *Chicago.*
Inks, Charles Andrew, *Nappanee.*
Jennings, Ralph Emmitbe, *Templeton, Ind.*
Jensen, Anton B., *Chilton, Wis.*
Johnson, Paul W., B.L., *(Milton Coll.)*, 1898, *Stone Fort.*
Johnson, W. B., *Des Moines, Ia.*
Johnson, Wilbur V., *Chicago.*
Kaa, Niels A., *Ashkum.*
Karmmerling, George P., *Milwaukee, Wis.*
Kavanaugh, J. P., *St. Louis, Mo.*
King, Frank Aylsworth, *Benton Harbor, Mich.*
Kirch, John P., *Richland Center, Wis.*
Kitterman, Fred R. *Tiskilwa.*
Kittermann, P. G., *Ottumwa, Ia.*
Kittler, Walter Eugene, *Milwaukee, Wis.*
Klehm, A. Louise, *Chicago.*
Kleinboehl, Julius W., *Milwaukee, Wis.*
Klinger, Ellis G., *Manhattan.*
Knox, Thomas P., *Quincy.*
Kurtz, Fred B., *Princeton, Ind.*
Kyes, Sherman M., *Plymouth, Wis.*
Lahodney, Charles J., *Chicago.*
Lane, Charles Sumner, *South Lyon, Mich.*
Larson, Carl L., *Chicago.*
Leavitt, Frank J., *Langford, S. Dak.*
Leehey, F. P., *Fairbank, Ia.*
Lockwood, Charles Richard, *Kankakee.*
Lofgren, Carl A., A.B., *(Augustana Coll.)*, 1897, *Dayton, Ia.*
Low, Lew Morgan, *Chicago.*
Lowry, W. J., *Cresco, Ia.*
Lunn, Martin J., *Beloit, Wis.*
Lyon, George Elmer, *Rochelle.*
McCarthy, Mrs. Katherine Winifred, *Chicago.*
McCarty, William Thomas, *Campbellsport, Wis.*
McConvill, Bernard J., *Lodi, Wis.*

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McGrath, B. R., *Savanna.*
McGuire, Charles John, *Milwaukee, Wis.*
McIntyre, Arthur Cecil, *Mendota.*
McKinney, I. Newton Charles, *Camargo.*
McNeil, Benjamin F., *Ft. Dodge, Ia.*
Manning, Thomas T., *Watertown, Wis.*
Maris, Emilie R., *Duluth, Minn.*
Merki, Emil J., *Chicago.*
Meyers, Judson Melvin, *Verona, Wis.*
Miller, Charles Arthur, *Makanda.*
Miller, George L., *Champaign.*
Miller, Robert W., *Comly, O.*
Mitchell, W. Frank, B.S., *(Ottawa, Kas., Univ.)*, 1899, *Superior, Neb.*
Morris, Robert Wilson, A.B., *(Monmouth Coll.)*, 1898, *Greenwich, N. Y.*
Mueller, Armin, *Milwaukee, Wis.*
Murphy, Bernard E., *Chicago.*
Murphy, Frances T., *Chicago.*
Nadig, Anton Tony. *Rush.*
Nickelson, George A., *Corpus Christi, Tex.*
Parker, Charles Eugene, *Gilman.*
Phifer, Charles Herbert, *Shumway.*
Phillips, Floyd, *Tuscola.*
Phillips, William C., Ph.G., *(Northwestern Univ.)*, *Clarinda, Ia.*
Plice, William A., Ph.G., *(Chicago Coll. of Pharmacy)*, 1893, *Chicago.*
Podgur, Maxwell Philip, *Chicago.*
Poinier, Edwin William, *Chicago.*
Potter, Charles A., *Lafox.*
Powers, Herbert William, *Chicago.*
Richards, Henry, *Chicago.*
Rodefeld, H. H., *Quincy.*
Rosenthal, George E., *Quincy.*
Rydin, C. G., *Chicago.*
Sabin, Alexander C., *Beatrice, Neb.*
Sawtelle, Henry Fenno, *Chicago.*
Schaefer, Paul Henry, *Burlington, Ia.*
Shafer, Howard O., *Rochester, Ind.*
Shelton, R. O., *Pulaski, Ia.*
Sheller, W. O., B.S., *Ashland, O.*

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Siegfriedt, John Casper Frederick,	*Davenport, Ia.*
Slater, Henry Herbert,	*Decatur.*
Sleyster, L. Rock,	*Chicago.*
Smiley, R. Borden,	*Lind, Wis.*
Smith, George W.,	*Galesburg.*
Sprecher, Samuel,	*Eureka, S. Dak.*
Standley, Kathryn Vance,	*LaClede, Mo.*
Stillman, Wayne L., D.V.S., *(Iowa State Coll.)*, 1899,	*Chicago.*
Stevens, Samuel Lorenzo,	*Bloomington.*
Strong, Charles D.,	*Paxton.*
Taylor, Charles Irwin,	*Indianola, Ia.*
Taylor, George Gordon,	*Chicago.*
Thomas, Will H.,	*Traer, Ia.*
Tolley, Elmer W., Oph.D., *(McCormick Ophthalmic Coll.)*, 1895,	*Chicago.*
Trail, Charles Jephthah,	*Independence, Ia.*
Tyvand, James C.,	*Forward, Wis.*
Venn, Walter T.,	*Aurora.*
Wachouski, John G., Ph.G., *(Northwestern Univ.)*, 1900,	*Chicago.*
Walliker, Wilbur Myron,	*Clinton, Ia.*
Walvoord, G. William,	*Cedar Grove, Wis.*
Weaver, Ben: Perley, B.S., *(Univ. of Ill.)*, 1899,	*Danville.*
Welch, Jennette C., A.B., *(Wellesley Coll.)*, 1899; Ph.D., *(Chicago Univ.)*, 1897.	*Benton Harbor, Mich.*
Werelius, Axel,	*Chicago.*
Whyte, P. D.,	*Chicago.*
Wiley, Jesse Bertram,	*Burk Grove, Ia.*
Wilson, J. M., B.L., *(Monmouth Coll.)*, 1898,	*Chicago.*
Winters, W. T.,	*Chicago.*
Yantis, D. Earl,	*Yantisville.*
Yeates, William,	*Bonfield.*
Young, C. C., Ph.G., *(Minnesota Coll. of Phar.)*, 1895,	*Bismarck, N. Dak.*
Zilisch, William E.,	*Hustisford, Wis.*
Zohrlaut, George Guido,	*Milwaukee, Wis.*

SOPHOMORE CLASS

Abercrombie, J. S., A.B., *(Yale Univ.)*, 1896,	*Rushville, Ind.*
Anderson, Emil Bernard,	*Chicago.*

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Anderson, Samuel Milligan, Ph.B., *(Coll. of Emporia)*, 1900, *Wichita, Kas.*
Ash, Mary E., B.S., *(Knox Coll.)*, 1893,..*Kenton, O.*
Baird, Mary Brooks, A.B., *(Chicago Univ.)*, 1896, *Eureka, Kas.*
Balensiefer, Otto, Ph.G., *(Chicago Coll. of Pharmacy)*, 1897, *Joliet.*
Barnes, Charles E., *Chicago.*
Barnes, Thornton B., *Connellsville, Pa.*
Barnsback, J. Lester, *Edwardsville.*
Barnum, William Truman, *Adrian, Mich.*
Barricelli, Giovanni, A.B., *(St. Francis Coll.)* 1898, *Naples, Italy.*
Blough, George F., *Mongo, Ind.*
Bryan, Thomas A., *Roachdale, Ind.*
Butterfield, Edwin J., *Ankeny, Ia.*
Butterfield, Forrest R., *Chicago.*
Cody, Burtis L., *Evansville, Ind.*
Cohen, Sylvan G., *Chicago.*
Conley, Montrose, *Boone, Ia.*
Connell, William Q., *Chicago.*
Copenhaver, John H., *Bellflower.*
Cosavaw, William Francis, *Chicago.*
Clyde, Albert Eugene, *Chicago.*
Dakin, Robert G., *Melvin.*
Davison, Charles Maclay, *Delavan.*
DeNeven, Arthur V., *Green Bay, Wis.*
Dodds, David C., *Idana, Kas.*
Donkle, Lucius B., *Madison, Wis.*
Dorn, F. R., *Waterville, Minn.*
Doty, C. H., *Union, Ia.*
Dunn, Clara, *Chicago.*
Duncan, Oscar M., B.S., *(Wabash Coll.)*, 1898, *Vincennes, Ind.*
Eddy, Irving H., *Audubon, Ia.*
Eldredge, Richard L., *Chicago*
Elich, Herman, Ph.G., *(Chicago Coll. of Phar.)*, 1896, *Chicago.*
Estes, R. L., *Neoga.*
Fanyo, Fred, *Watseka.*
Ficke, Emil O., *Davenport, Ia.*
Fischer, Oscar G., *Chicago.*

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Fisher, Frank C., *Chicago.*
Forbes, Harvey J., *New Hampton, Ia.*
Frechtling, Louis H. S., *Hamilton, O.*
Fritz, Albert L., *Earlham, Ia.*
Fucik, Edward J., *Chicago.*
Geiger, Louis H., *Paxton.*
Goldburger, H. E., Ph.G., *(Chicago Coll. of Phar.)*, 1890, *Chicago.*
Gourley, Fred Lantz, *Paxton.*
Greaves, Walter W., *Austin.*
Hagyard, Charlton Edward, Ph.G., *(Phar. Asso. Province of Manitoba)*, 1897, *Winnipeg, Man.*
Hall, Milton Weston, *Evanston.*
Harnette, Arthur Lee, *Chicago.*
Haskell, John Eddy, A.B., *(DePauw Univ.)*, *Green Castle, Ind.*
Havenstrite, Charles David, *New York, N. Y.*
Hawkins, G. Merrill, *Elkhorn Grove.*
Hays, Annie, *Clarksville, Ark.*
Heinen, Aloys, *Chicago.*
Hildebrandt, Fred Hubert, *Beaver Dam, Wis.*
Hilger, Joseph M., *Mazeppa, Minn.*
Holmes, Philip H., *Chicago.*
Horan, George F., *Chicago.*
Horn, Archie S., *Pewaukee, Wis.*
Hort, W. E., *Galva, Ia.*
Houda, Emil O., *Chicago.*
Howard, Geo. H., *New Orleans, La.*
Howe, Lydston D., *Streator.*
Ingersol, Harriet T., *Marengo.*
Jewell, Milton Dona, *Decorah, Ia.*
Johnson, Julius A., *Black River Falls, Wis.*
Johnson, L. M., *Annawan.*
Jones, Margaret M., B.S., *(Iowa State Coll. of Agrl.)*, 1897, *Mason City, Ia.*
Joyce, Martin Thaddeus, *Waterloo, Wis.*
Kavaljian, Zaroohie S., *Adabazar, Turkey.*
Kenny, Harry Thomas. *Cherokee, Ia.*
King, Robert C., *Algona, Ia.*
Klinefelter, L. Edgar, *Center Point, Ia.*
Kullmer, John Henry, Jr., *Dysart, Ia.*
Lamb, James G., *Voorhies.*

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Landon, David Ralph, Ph.G., *(Chicago Coll. of Phar.)*, 1897, *Chicago.*
Lane, Robert M., *Danville.*
Lang, H. W., *Chicago.*
Lipman, William Henry, *Chicago.*
Long, W. Ernest, *Roodhouse.*
Loveridge, Burt Taylor, *Marcellus, Mich.*
McCarthy, Harry, *Richland Center, Wis.*
McCarty, Charles E., *Ankona, Fla.*
McGann, Michael E., *Joliet.*
Madden, William D., *Lyons, Ia.*
Maloy, Bernard S., *Englewood.*
Martin, Nancy Lee, *Monmouth.*
Mead, Nehemiah Paul, *Akron, Ia.*
Mellen, Charles S., *Chicago.*
Miller, Donald Campbell, *Viroqua, Wis.*
Moe, Ray Wallace, *Burlington, Wis.*
Molnar, Helen, *Tavornik, Moravia.*
Moore, Ernest Sisson, Ph.D., *(DePauw Univ.)*, 1892, *Chicago.*
Moore, Will H., *Chicago.*
Morgan, Charles McRae, A.B., *(Presbyterian Univ., Clarksville, Tenn.)*, *Camden, Ark.*
Mullany, T. J., *Jesup, Ia.*
Myers, Carleton Spencer, *Chicago.*
Napieralski, Emanuel F., *Chicago.*
Nowakowski, John J., *Chicago.*
Null, Marion Michael, B.S., *(Univ. of Ill.)*, 1900. *Blandinsville.*
Oberholtzer, Edward J., *Williamsfield.*
Obie, George W., *Nashville, Tenn.*
Parker, Don L., *Shelbyville.*
Parkinson, W. B., Jr., *Logan City, Utah.*
Patera, Edward, Ph.G., *(Northwestern School of Phar.)*, 1895, *Chicago.*
Phillips, Charles Eton, A.B., *(Eureka Coll.)*, 1900, *Millington.*
Pickett, Charles H., *Chicago.*
Pokorney, Frank J., Ph.G., *(Univ. of Ill.)*, 1899, *Chicago.*
Poorman, Burt Allen, *Junction City, Kas.*
Poorman, C. Wallace, *Junction City, Kas.*

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Porges, Irving A., Ph.G., *(Chicago Coll. of Phar.)*, 1897, *Chicago.*
Porges, Otto, Ph.G., *(Chicago Coll. of Phar.)*, 1897, *Chicago.*
Porter, Roy S., *Moline.*
Porter, William H., *Beaulieu, N. Dak.*
Power, Lamar M., *Escanaba, Mich.*
Reese, Ernest G., Ph.C., *(Univ. of Mich.)*, 1895, *Bowling Green, O.*
Reeves, Emory W., *Plymouth, Ind.*
Rightman, Wm. M., *Chicago.*
Robbins, Emma E., *Ord, Neb.*
Rubel, Harry Francis, *LeMars, Ia.*
Sackett, L. Melville, *Parsons, Kas.*
Schroeter, Oscar V., *Chicago.*
Seelye, Norman Lee, *Lake Geneva, Wis.*
Seidel, Albert Christian William, *Quincy.*
Sepple, Edward Gerald, *Chicago.*
Shepherd, William Arthur, *Seymour, Wis.*
Sherrill, Joseph Johnston, *Union City, Tenn.*
Shoop, Arthur D., *Columbus, O.*
Sibley, Leroy, *Terre Haute, Ind.*
Sill, Earl Bly, *Marcellus, Mich.*
Silverberg, William, *Chicago.*
Smith, J. Lawrence, *Chicago.*
Stuenkel, Arthur, *Chicago.*
Sure, Julius Hilton, *Chicago.*
Swarthout, Ellis F., *Pine Island, Minn.*
Thomas, Benjamin, *Chicago.*
Thomas, Mrs. Benjamin, *Chicago.*
Thomas, Frank, Ph.G., *(Chicago Coll. of Phar.)*, 1887, *Cairo.*
Tweedall, Daniel G., *Evansville, Ind.*
Uran, Joseph A., *Kankakee.*
Urmston, Paul R., *Hamilton, O.*
Vance, Harve M., *Bement.*
Voris, Henry McMunn, *Neoga.*
Waddle, Herbert Clark, *Normal.*
Was, Francois J. T., *Chicago.*
Waufle, Guy C., *Rock Prairie, Wis.*
Weld, James Cushing, *Chicago.*
Wessels, Walter F., *Quincy.*

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West, Pearl C., *Pleasant Hill, O.*
Wicks, Seth, *Akron, Ind.*
Wilson, J. W., *Chicago.*
Wilson, L. R., *New Hampton, Ia.*
Winne, Charles W., Ph.C., *(Chicago Coll. of Phar.)*, 1897, *Chicago.*
Winston, Verne E., *Evansville, Wis.*
Wochas, Wenzel M., *Stangelville, Wis.*
Wolavka, Charles W., *Chicago.*
Wood, James Manley, *Chicago.*
Xellowski, Thaddeus Z., Ph.G., *(Chicago Coll. of Phar.)*, 1897, *Chicago.*
Yates, Charles E., *Narka, Kas.*
Young, James A., *Rankin.*

FRESHMAN CLASS

Alexander, Mrs. L. F., *Lake Forest.*
Anderson, Emile E., *Paxton.*
Archer, Charles A., *Arkadelphia, Ark.*
Armstrong, Jay L., *Urbana.*
Ash, R. C., *Ashton, O.*
Axe, Ross H., *Morocco, Ind.*
Ayres, D. Francis, *Chicago Heights.*
Bahl, William Henry, *Moline.*
Baldwin, Harry C., *Palmyra, Neb.*
Barker, Clarence D., *Austin.*
Baumgart, Fred A., *Danville.*
Beck, J. B., *Chicago.*
Beveridge, George, A.B., *(Monmouth Coll.)*, 1899, *Victor.*
Biesenthal, Max, *Chicago.*
Blackmer, Loren, Jr., *Albert Lea, Minn.*
Blackmer, Frank J., *Albert Lea, Minn.*
Blumenthal, Robert Warren, *Columbus, Wis.*
Borges, David G., *Chicago.*
Brown, Delmer Case, A.B., *(Toronto Univ.)*, 1898, *Minneapolis, Minn.*
Carmack, Albert O., *Camargo.*
Case, Schuyler W., *Cherry Valley.*
Cavanaugh, Algernon J., *Chicago.*
Cavanaugh, H. E., *Eden, Wis.*
Chapman, Ira Wellington, *New Cumberland, W.Va.*
Coffin, Charles A., *Adrian, Mich.*

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Cole, D. T., *Rantoul.*
Cone, D. Edmund, *Otsego, O.*
Curney, Frank Richard, *Chicago.*
Dale, John R., *Fremont, Ia.*
Davidson, Herbert Norton, *Wichita, Kas.*
Danek, Eric J., *Chicago.*
Dawes, Leonard, *Monroe Center, Wis.*
Dickey, S. James, *Hartstown, Pa.*
Dielman, Frank C., *Akron, Ind.*
Donald, Enfield J., *Clarinda, Ia.*
Eisendrath, Jacob Leonard, *Chicago.*
Gailey, William Watson, *Ashland.*
Giesen, Charles W., *Calmar, Ia.*
Gordon, Edmund H., *Chicago.*
Gotthelf, I. L., *Denver, Colo.*
Grace, James Henry, *Chicago.*
Graves, S. S., *Chicago.*
Greaves, Joseph Ainsworth, *Chicago.*
Gunderson, Cornelius, *Chicago.*
Hagans, Grace Frith, *Chicago.*
Haessly, Stephen B., *Herbert, Wis.*
Harrington, William Emery, *Owatonna, Minn.*
Haslit, Parcy, *Marshall.*
Hattery, Hellis H., *Waterloo, Ia.*
Hays, Frank Crawford, *Camden.*
Heffelfinger, Miles Akin, *Grundy Center, Ia.*
Henning, Albert Francis, *Newell, Ia.*
Hollerich, William Edward, *Valley.*
Hutchison, Owen Ghormley, *Clarence.*
Jackson, Charles Augustus, *Houston, Tex.*
Jarvis, Edward T., *Plymouth.*
Jones, Charles E., Ph.C., *(Chicago Coll. of Phar.)*, 1898, *Oak Park.*
Katz, Bernard Gerson, *Chicago.*
Kay, Milton, *Walla Walla, Wash.*
Keepe, Frank M., *Clinton, Ia.*
Ketchum, Ellen Pauline, *La Prairie.*
Kratohoil, H. H., *Hampton, Ia.*
Kruk, George Joseph, *Chicago.*
Landau, Benjamin G., *Chicago.*
Landmann, Gustave A., *Scotland, S. Dak.*
Lee, Edgar, *Chicago.*

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Leviton, Solomon,	*Chicago.*
Luke, Edward,	*Danville.*
Luril, G. Adolphus,	*Chicago.*
Markley, George Washington,	*Belvidere.*
Martin, Manfred Robert,	*Weldon.*
Marvel, Luther M.,	*Waynesville.*
Mattison, Charles Wesley, B.S., *(Penn Coll., Oskaloosa)*, 1900,	*Oskaloosa, Ia.*
Merritt, Frank W.,	*Centerville, Ia.*
Miller, John M.,	*Pinckneyville.*
Monahan, James J.,	*Tomah, Wis.*
Montgomery, James R.,	*Ft. Branch, Ind.*
Montgomery, William,	*Eau Claire, Wis.*
Moore, Clara,	*Kewanee, Wis.*
Moore, George W.,	*Kewanee, Wis.*
Morrell, Joseph R.,	*Logan City, Utah.*
Morton, David Holmes,	*Elmwood.*
Mott, Kenon,	*Brunswick, Ga.*
Norton, Francis Patrick,	*Rochester, Minn.*
Oake, William T., Ph.G., *(Northwestern School of Phar.)*,	*Chicago.*
Ogasawara, Seijiro,	*Osaka, Japan.*
O'Neil, J. Howard Francis,	*Chicago.*
Raynor, M., B.S.A.,	*Rose Hall, Ontario.*
Reitman, Benjamin L.,	*Chicago.*
Replogle, Josephus Francis,	*Pontiac.*
Rosson, Zachariah Taylor,	*Jeffersonville, Ind.*
Schimelfenig, I. Clarence,	*Chicago.*
Shapiro, J. B.,	*Chicago.*
Sherlock, Margaret,	*Martinsburg, Ia.*
Simpson, W. L., B.D., *(Highland Park Coll.)*, 1900,	*Diagonal, Ia.*
Sloan, Melville H.,	*Chicago.*
Starck, Carl A.,	*Palatine.*
Stevens, Robert E.,	*Rochelle.*
Stewart, John H.,	*Exeter.*
Strayer, Lucile I.,	*Chicago.*
Spencer, William H.,	*Vinton, Ia.*
Sword, Howard Russell,	*Lanark.*
Taylor, Frank Bashford,	*Madison, Wis.*
Thomas, Edna Margaret,	*Monticello, Ia.*
Treifer, Louis Pete,	*Norway, Mich.*

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Twohig, David J.,	*Armstrong, Wis.*
Van Buren, Arthur,	*Cedar Rapids, Ia.*
Vopata, William J.,	*Chicago.*
Wall, Clarence Heathcote,	*Chicago.*
Warvel, Jonas,	*Manchester, Ind.*
Weurst, Ella,	*South Bend, Ind.*
Wiltbigler, Brice Rex,	*Gerlaw.*
Windmueller, Charles,	*Chicago.*
Windmueller, Paul,	*Chicago.*
Wisten, Mrs. R. R.,	*Chicago.*
Wood, Frank L.,	*Superior, Wis.*
Young, William Herbert, B.S., *(Univ. of N. Dak.)*, 1899,	*Salt Lake City, Utah.*

SPECIALS AND UNCLASSIFIED

Barker, Thomas K.,	*Owensboro, Ky.*
Blake, J. M.,	*Chicago.*
Carpenter, Jessie Drew,	*Chicago.*
Glich, Orval Ewelt,	*Paris.*
Gurley, Edwin Lawrence,	*Marietta, O.*
Hampshire, G. H.,	*Chicago.*
Hosman, Willis Erwin, M.D., *(Eclectic Coll. P. and S., Indianapolis)*, 1892,	*Akron, Ind.*
Jacob, Miss A. G.,	*Chicago.*
Knauf, A. E.,	*Chicago.*
Knauf, Edward,	*Chicago.*
McDonnell, R. J. F.,	*Chicago.*
Moessner, F. R.,	*Madison, Wis.*
Osterbeek, J. F.,	*Chicago.*
Pullen, Frances R.,	*Oak Park.*
Richardson, R. L.,	*Chicago.*
Shows, J. F.,	*Tulia, Texas.*
Stanton, F. W.,	*Chicago.*
Sunde, P. H.,	*Chicago.*
Thompson, Frank Jared,	*Fargo, N. Dak.*
Wheeler, Edwin Reed,	*Sioux City, Ia.*

SCHOOL OF PHARMACY

SENIOR CLASS

Bank, Harry Lawrence Marie,	*Chicago.*
Belmore, William Thomas,	*Highwood.*
Bob, Paul William,	*Roseville.*

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Bogue, Ralph Foster,	*Chicago.*
Bradley, Ira Clark,	*Coal City.*
Brenner, George Frederick,	*Fowler.*
Briggs, William Jefferson,	*Burlington, Kas.*
Clarke, Fred Blaine,	*Morris, Minn.*
Crew, James Henry,	*Minneapolis, Minn.*
Czaja, Peter,	*Chicago.*
Delbridge, Cyril John,	*Chicago.*
Dewitz, Otto John,	*Chicago.*
Downey, William,	*Wenona.*
Eagelston, Earnest Eugene,	*Castleton.*
Englert, William Robert,	*Elko, Nev.*
Everett, Edwin,	*Atkinson.*
Fernholz, Edward Nicholas,	*Jefferson, Wis.*
Fox, Guy Gore,	*Norfolk, Neb.*
George, Alexander Hamilton,	*Chicago.*
Giese, Harry William,	*Bloomington.*
Glogau, Alexander,	*Chicago.*
Gold, Morris,	*Chicago.*
Gregg, Maude Alma,	*Attica, Kas.*
Hamer, George Henry,	*Park Ridge.*
Hartig, Henry,	*Peoria.*
Hastings, Patsy Henry,	*Bailey, Ia.*
Hibbe, Harry Mathew,	*Chicago.*
Hobart, Maude Finley,	*Gilman.*
Hogan, Daniel Joseph,	*Chicago.*
Hopkins, Richard Herbert,	*Cole, Ia.*
Howk, Charles,	*Windsor.*
Hull, Harry Peck,	*Chicago.*
Ibach, Alfred Charles,	*Chicago.*
Jensen, Eli,	*Chicago.*
Karr, Robert August,	*Metropolis.*
Kokes, Anton Rudolph,	*Ord, Neb.*
Kraemer, Frank William,	*Chicago.*
Lee, John Victor,	*Evanston.*
Lyons, George Henry,	*Meadville, Pa.*
Mayo, Frederick William,	*Memphis, Tenn.*
McDougall, Joseph Donald,	*Warsaw.*
More, Laurence Francis,	*Keokuk, Ia.*
Newman, Frank Leslie,	*Chicago.*
Oliver, Richard Lisle,	*Stockton.*
Orbesen, Christ Jensen,	*Chicago.*

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Parker, Charles William,	*Napoleon, Mich.*
Perry, Benjamin,	*Melvin.*
Peterson, Enoch Fred,	*Chicago.*
Phillips, William Robetoy,	*Selkirk, Ont.*
Price, Moses Reuben,	*Chicago.*
Randack, Frank Joseph,	*Chicago.*
Reichmann, Albert,	*Joliet.*
Rennen, William Anthony,	*Chicago.*
Rodenhauser, William Robert,	*Bloomington.*
Roesch, Anton,	*Waumandee, Wis.*
Salchert, Herman Anton,	*Oconto Falls, Wis.*
Samuels, John Jacob,	*Chicago*
Saxe, George,	*Albion.*
Schaefer, Walter Johann,	*New Braunfels, Tex.*
Schaffarzick, Charles Frank Ralph,	*Jefferson, Wis.*
Schmitt, Walter,	*Chicago.*
Schultz, Charles Frank,	*Neenah, Wis.*
Schulze, Arthur Henry,	*Chicago.*
Seltzer, Bert,	*Manhattan.*
Shapiro, Morris Albert,	*Chicago.*
Shaw, Vincent Howard,	*Kidder, Mo.*
Stahl, Edward Henry,	*Kansas City, Mo.*
Swan, John Clyde,	*Maywood.*
Swartz, Frank Elijah,	*Roca, Neb.*
Ullman, Chester Arthur,	*Chicago.*
Whisenant, Walter Hines, B.S., *(Univ. of Tex.,)* 1899.	*Kyle, Tex.*

JUNIOR CLASS

Bader, Henry,	*Chicago.*
Baskerville, Thomas Henry,	*Coal City.*
Beck, Fritz William,	*Chicago.*
Beckwith, George,	*LaGrange.*
Behrensmeyer, Harry Frederick,	*Quincy.*
Blumenthal, Moses,	*Dubuque, Ia.*
Bornemann, Sara Sibree,	*Oak Park.*
Bourne, Carl Ellwood,	*Clay City, Ind.*
Bourne, Earl Scott,	*Lewis, Ind.*
Bowden, Fred Leopold Treacher,	*West Pullman.*
Bowman, Charles Odus,	*Wathena, Kas.*
Bowman, Leroy Urban,	*Danville.*
Brenke, Gustav Adalbert,	*Chicago.*
Brown, Frederick Andrew,	*Chicago.*

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Caldwell, Edwin Kyle,	*Chicago.*
Cholewinski, John Peter,	*Chicago.*
De Land, Harry Rollins,	*Papillion, Neb.*
Distler, Alexander Peter,	*Peoria.*
Dow, Fred Noah,	*Hudson, Mich.*
Drewitz, John William,	*LaSalle.*
Eagan, William Patrick,	*St. Edward, Neb.*
Ehlen, Henry John,	*Chicago.*
Engel, Walter Frank,	*Chicago.*
Fetherston, Joseph Robert,	*Chicago.*
Feurer, Emil John,	*LaSalle.*
Forbrich, Phillip Joseph,	*Chicago.*
Freeman, William Benjamin,	*Chicago.*
Friend, Ulysses Clarence,	*Rushville, Ind.*
Friesenecker, Charles Matthias,	*Galena.*
Gaut, Charles Pearl,	*Streator.*
Geerlings, Isaac,	*Milwaukee, Wis.*
Gibbs, Leon Elmore,	*Chicago.*
Haines, Eugene Hancock,	*Taylorville.*
Hamley, Arthur Leroy,	*Maquoketa, Ia.*
Hartline, Willis Arthur,	*Anna.*
Hatton, Henry Timothy,	*Montrose, Ia.*
Hauber, Anton Frank,	*Chicago.*
Heidbreder, Frank Herman,	*Quincy.*
Helmig, Edwin Herman,	*Peru.*
Henke, Albert Philip,	*Aurora.*
Hitchcock, John Henry,	*Lewistown.*
Houseman, Guy Weedman,	*Farmer City.*
Huwatschek, Oscar George,	*Manitowoc, Mich.*
Jerusal, Stanley James,	*Chicago.*
Jungk, Ferdinand Erwin Oscar,	*Chicago.*
Keller, Walter Valentin,	*Chicago.*
Koepke, Fritz Vollrath,	*Amboy.*
Kovnat, Alexander,	*Chicago.*
Krzywinski, Joseph,	*Chicago.*
Laufer, Ernest William David,	*Chicago.*
Lawrence, Victor Emanuel,	*Chesterton, Ind.*
Leonard, William C.,	*St. Louis, Mich.*
Lippold, Leonard Warren,	*St. Joseph, Mich.*
Lye, Edward,	*Neillsville, Wis.*
McClenahan, Carl,	*Lafayette.*
McCormick, George Allan,	*Hennepin.*

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Meinung, Robert Arthur William,	*Chicago.*
Mercil, Elmer Joseph,	*Chicago.*
Mick, Carl Frederick,	*Neillsville, Wis.*
Mills, Earl C.,	*Ossian, Ia.*
Mitchell, Isaac Frederick,	*Farmer City.*
Monilaws, Stewart Alexander,	*Kincardine, Ont.*
Moyer, Harry Thomas,	*Chicago.*
Naughton, Thomas Michael,	*Chicago.*
Naviaux, Ernest Louis,	*Lexington, Neb.*
Nywall, David Alfred,	*Lindsborg, Kas.*
Ostergreen, Oscar,	*Chicago.*
Owens, Edward John,	*Denver, Colo.*
Ozanne, Philo Hoysradt,	*Tempe, Ariz.*
Pape, Hugo Aloysius,	*Evanston.*
Pedigo, Lee Murray,	*Augusta, Ga.*
Pierce, Francis Elbert,	*Wentworth, S. Dak.*
Porter, Gail Quincy,	*Deland.*
Rademacher, Charles Fred,	*Chicago.*
Ragor, Joseph Andrew,	*Chicago.*
Reibe, Charles Will,	*Chicago.*
Reid, Manus,	*Media.*
Rolff, Max Otto,	*Peoria.*
Rommel, Hans Karl Kurt,	*Chicago.*
Salisbury, Fred Henry,	*Kearney, Neb.*
Sauerberg, Einar Andre,	*Chicago.*
Schleder, Arthur Theodore,	*Lena.*
Schneider, Roy Allison,	*Peotone.*
Schnellenberger, Andrew Francis,	*Chicago.*
Simpson, Fred,	*Vienna.*
Smetana, Frank William.	*Hopkins, Minn.*
Smith, Brazill Oscar,	*Rockford.*
Snow, Clyde Mason,	*Earlville.*
Spangler, Newton Light,	*Lebanon, Pa.*
Stahlfeld, Paul George,	*Chicago.*
Stegmayer, Charles Gottlieb,	*Shelbyville.*
Stone, John Francis,	*Chicago.*
Stulik, Henry,	*Chicago.*
Sutherland, William LaRue,	*Centralia.*
Szybowicz, Leo Francis,	*South Bend, Ind.*
Thompson, Herbert Richard,	*Morristown, N. Y.*
Thorson, Gustave William,	*Chicago.*
Tiscornia, John Baptist,	*Chicago.*

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Trindle, Frank James,	*Kearney, Neb.*
Turnbull, Charles,	*Chicago.*
Voge, William Fred,	*Chicago.*
Von Hermann, Ferdinand Joseph,	*Chicago.*
Walker, Frederick Douglas Garnet,	*Gibbon, Neb.*
Ward, Del W.,	*Rochester, Ind.*
Warren, John Patterson,	*Dyersville, Ia.*
Welker, Charles John,	*Chicago.*
Wendt, Walter Eli,	*Mayville, Wis.*
Wheatcroft, John Christopher,	*Grayville.*
Wirth, Adolph George,	*Duluth, Minn.*
Wojtalewicz, John Benedict,	*Chicago.*
Woolfolk, John,	*Paducah, Ky.*

PREPARATORY SCHOOL

Abbott, Cary Lorin,	*Leverett.*
Abend, Hallett Edward,	*Belleville.*
Albertson, Robert Wesley,	*Pekin.*
Albrecht, Edward Unzicker,	*Tiskilwa.*
Alley, William Edwin,	*Urbana.*
Andrew, Eddy Glen,	*Oregon.*
Armstrong, Florence Azella,	*Chicago.*
Armstrong, Jessie Eva,	*Champaign.*
Armstrong, Neal Holland,	*Urbana.*
Baber, Earl Armetige,	*Sadorus.*
Bacon, Lewis Frank,	*LaPrairie.*
Baker, Walter Edward,	*Pilot.*
Ballard, John Blaine,	*New Boston.*
Bandy, Claude William,	*Danville.*
Barglebaugh, Charles Erwin,	*El Paso, Tex.*
Baum, Ethel Genevieve,	*Champaign.*
Baum, Ralph,	*Paris.*
Bean, Elsie Margaret,	*Blue Mound.*
Black, Lucian Robert,	*Purcell, Ind. Ty.*
Blair, Sara Lillian,	*Amherst, Nova Scotia.*
Bond, John Myron,	*Champaign.*
Boner, Glenna Mildred,	*El Paso.*
Boner, Halbert Evans,	*Walcott, Ind.*
Bowser, Robert Emmett,	*Bishop.*
Boyle, John Marshall,	*Roberts.*
Bradbury, William Carson,	*Decatur.*
Bradish, Horace Clark,	*Springfield.*

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Bradley, Tirzah Ozilla,	*Blue Mound.*
Brant, Jessie Jennie,	*Hamilton.*
Brant, Mina Isabella,	*Hamilton.*
Brewer, Ernest Franklin,	*Farmington.*
Brown, William Edward,	*Champaign.*
Buchanan, John Lee,	*Lacon.*
Bumgarner, John Swisher,	*Magnolia.*
Burdick, Anna Lavinia,	*Assumption.*
Burrill, Irene Elsa,	*Urbana.*
Burwash, Lois Irene,	*Champaign.*
Calhoun, Helen Vera,	*Champaign.*
Campell, Homer W,	*Pecatonica.*
Campfield, William Sanford,	*Rockford.*
Cash, Paul,	*Oakland.*
Casserly, Thomas David,	*Champaign.*
Cessna, Albert Bergess,	*Hope.*
Chambers, Ralph Edward,	*Sadorus.*
Chesley, Beulah Vinton,	*Danville.*
Chesnut, Jennie Stewart,	*New Holland.*
Christiansen, John,	*Moline.*
Clark, Clinton Oliver,	*Winchester.*
Clark, Edna Hazel,	*Urbana.*
Clegg, Frank Harold,	*Pullman.*
Collins, Edra,	*Champaign.*
Conard, Sarah Orvilla,	*Monticello.*
Conklin, Alfred Oscar,	*Wichita, Kas.*
Conklin, Edward Julian,	*Wichita, Kas.*
Coons, Albert Madison,	*Loami.*
Corzine, Roy Allen,	*Stonington.*
Crawford, David Moffet,	*Urbana.*
Crawford, Frank Alexander,	*Herscher.*
Crawford, Mabel Melissa,	*Urbana.*
Cresap, Trella Jane,	*Urbana.*
Crouch, Samuel,	*Rozetta.*
Crouch, Verna Ruth,	*Rozetta.*
Cunningham, Roy Bertrum,	*Sumner.*
Dale, Ernest Arthur,	*McLeansboro.*
Davidson, Nell Jeannette,	*Mahomet.*
Davis, Mary Belma,	*Mt. Zion.*
Day, Herbert Winch,	*Rockford.*
Day, Winfield Scott,	*Roseville.*
Dean, Harry Snow,	*Tremont.*

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DePuy, Orval Carl,	*Urbana.*
Dighton, John Netherton, Jr.,	*Monticello.*
Disbrow, Iva Belle,	*Huntley.*
Divan, Walter Rutledge,	*Burr Oak.*
Doran, Edwin Beale,	*Butler, Mo.*
Drury, Purne,	*New Boston.*
Dunlap, Albert Menzo,	*Savoy.*
Eichelberger, Frank,	*Lewistown.*
Elder, Ralph Maxwell,	*Hamilton.*
Elliott, Oscar Ellis,	*Fairmount.*
Ellis, Herbert Wesley,	*Gifford.*
Ely, Hamlin Mossman,	*Mazon.*
Emerson, Ralph Waldo,	*Caledonia.*
Eshbach, Warren B,	*Aledo.*
Farnsworth, George Lester,	*Ottawa.*
Ferguson, William Clarence,	*Clarinda, Ia.*
Ferry, Lee Clark,	*Warrensburg.*
Firebaugh, Charles,	*Robinson.*
Frey, Joseph Clark,	*Rock Island.*
Gallaher, George Ruffer,	*Mt. Palatine.*
Gill, Richard H,	*Pecatonica.*
Ginzel, Leo Arthur,	*Trenton.*
Goodrich, Charles Eugene,	*Belvidere.*
Gordon, Wallace Albert,	*Blue Mound.*
Green, Gella Genevieve,	*Ivesdale.*
Greene, Alice Mary,	*Urbana.*
Gregory, Ethel,	*Gibson City.*
Gregory, Hugh Monroe,	*Oakland.*
Gullick, Roy,	*Greenvillle.*
Hall, Quincy Allen,	*Milford.*
Harris, Estella,	*Modesto.*
Harris, Thomas Michael,	*Lee.*
Haubaker, Edwin Jacobs,	*Mansfield.*
Hawes, Charles Wesley, Jr.,	*Rock Island.*
Hertel, Garfield Eugene,	*Belleville.*
Hess, Harry Charles,	*Somonauk.*
Higgins, Don Nelson,	*Vienna.*
Hillman, Frank William,	*Chicago*
Hines, Elmer George,	*Huey.*
Hobart, Frank,	*McDowell.*
Holmes, John Thomas,	*Ogden.*
Hopkins, Harry Earl,	*Estelline, S. Dak.*

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Hopkins, Myrtle Mina,	*Estelline, S. Dak.*
Houchin, Edson Lines,	*Cornell.*
Howard, Frederick Seymour,	*Bloomington.*
Hughes, Harold Demott,	*Antioch.*
Hughes, Smith Yale,	*Antioch.*
Janssen, Otto,	*Los Angeles, Cal.*
Jenkins, Charles E.,	*Vermont.*
Jennings, Curtiss Garfield,	*Scottland.*
Johnson, Preston King,	*Champaign.*
Jordan, Myron Kendal,	*Savoy.*
Kamm, Jacob William,	*Atwood.*
Kasper, George Wallace,	*Chicago.*
Keller, Berthold Seraphine,	*Naperville.*
Keller, Edward Hernly,	*Decatur.*
Kellogg, Howard Day,	*Peoria.*
Kelly, Elmer Lorin,	*Shumway.*
King, Harry Milton,	*Augusta.*
Klossowski, William George,	*Dixon.*
Krippner, John,	*Chicago.*
Kyte, John Felix,	*Milan.*
Lash, Raymond,	*Magnolia.*
Leonard, Herman Thomas,	*Urbana.*
Leonard, Raymond Anthony,	*Decatur.*
Little, Charles Edwin,	*Sycamore.*
Lonergan, Charles Augustus,	*Polo.*
Loomis, Foy Otto,	*Windsor.*
Lucas, John,	*Easton.*
Maas, Johann Hinrich,	*Homestead.*
McMahan, Bernard Strange,	*Crows Landing, Cal.*
McMath, Roscoe Allen,	*Gladstone.*
McMillen, Rolla Coral,	*Monticello.*
Madansky, Paul,	*Fairfield.*
Marriott, Jennie Dene,	*Urbana.*
Maut, George John,	*Pana.*
May, David Thorpe,	*Prophetstown.*
Maytag, Elmer Henry,	*Newton, Ia.*
Medill, William Anthony,	*Milan.*
Meharry, Edwin,	*Tolono.*
Meharry, George Francis,	*Tolono.*
Miller, Chester Branch,	*Seymour.*
Miner, James Howard,	*Adair.*
Morris, Sidney Dealey,	*Chicago.*

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Mosiman, Levi,	*Norton.*
Moss, Haven Haanel,	*Urbana.*
Moss, Mary Francis,	*Urbana.*
Musselman, Claude,	*Danvers.*
Nickell, Lloyd Francis,	*Whiteheath.*
Nuckolls, Charles Morrison,	*Urbana.*
Ohnemus, Albert Andrew,	*Quincy.*
Paine, Mattie May,	*Rosemond.*
Parker, Calton William,	*Champaign.*
Peacock, Lottie Belle,	*Urbana.*
Peironnet, Clarence Bishop,	*Wheaton.*
Perkins, Mary Elizabeth,	*Peoria.*
Perley, Putnam Davis,	*Pecatonica.*
Peterman, Earle Dean,	*Savoy.*
Phares, Loyd Abner,	*Clinton.*
Phillips, Nelson Chancellor,	*Damascus.*
Pickle, Walter Dellavan,	*Flagg.*
Piepenbrink, Louis Henry,	*Joliet.*
Pittman, Claude Earnest,	*Mahomet.*
Pitts, Lewis Edgar,	*McLean.*
Pitts, Ralph Lowell,	*McLean.*
Porter, Edward Alexander,	*Momence.*
Powell, Clarence Griffin,	*Montezuma, Ind.*
Prettyman, William Schenck,	*Pekin.*
Raum, Wesley Sloan,	*McLeansboro.*
Ray, Harold Adair,	*Champaign.*
Ray, Howard Alden,	*Libertyville.*
Rich, Claude Winferd,	*Cobden.*
Ritter, Adah Frances,	*Tuscola.*
Ritter, Lena Beatrice,	*Villa Grove.*
Rolfe, Amy Lucile,	*Champaign.*
Rose, Cameron Alfred,	*Oak Park.*
Rose, Webster Barclay,	*Windsor.*
Ross, Robert Malcolm,	*Chicago.*
Rothgeb, Claude James,	*Milford.*
Sale, Eva Cornelia,	*Champaign.*
Schoolcraft, Laura Jane,	*North Adams, Mich.*
Schumacher, Henry Theodore,	*Toluca.*
Schwartz, Clara Elizabeth,	*Dallas City.*
Scott, Clarence George,	*Pecatonica.*
Selmer, John,	*Eau Claire, Wis.*
Shepherd, Fred Allen,	*Fairmount.*

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Shoemaker, Edwin Raymond,	*McLeansboro.*
Sidenstriker, Franklin Miler,	*Newman.*
Simile, Mable Jeannette,	*Ashland.*
Smith, Edwin Raymond,	*Pilot.*
Smith, Gladys Mary,	*Mt. Zion.*
Smith, Valentine,	*Urbana.*
Spence, Minnie Bertha,	*Urbana.*
Spicer, Rawser Norman,	*Lorain.*
Stark, Edwin Frederick,	*Chicago.*
Staub, Joseph Aaron,	*Terre Haute, Ind.*
Steber, Arthur Leo,	*Chester.*
Stocker, Charles Herbert,	*Highland.*
Stockert, William Arthur,	*Pekin.*
Strubhar, Clyde Elmer,	*Washington.*
Swank, Judge Robert,	*Chrisman.*
Teufel, Louis,	*Victor, Ia.*
Thompson, James William,	*Tuscola.*
Tracey, Andrew Edward,	*Toluca.*
Trams, Albert Francis,	*Loda.*
Trevett, Bessie Harriette,	*Champaign.*
Turnbull, Guy Allen,	*Van Orin.*
Velde, John Ernest,	*Pekin.*
Vestal, Clarence LeRoy,	*Hamilton.*
Wagoner, Ed Owen,	*Elliott.*
Wedge, Jessie,	*Ipava.*
Wheeler, Edmund Burke,	*Bellflower.*
Wiley, Carroll Carson,	*Stonington.*
Williams, Paul Thorp,	*Hoopeston.*
Willson, Morris,	*New Albany, Ind.*
Wilson, Arthur John,	*Knoxville.*
Wilson, Harlan Raphael,	*Knoxville.*
Wisegarver, William Hetrick,	*Savoy.*

SPECIALS IN MUSIC

Anderson, Stella Bertha,	*Toledo.*
Bireley, Cassia Maude,	*Urbana.*
Breckenridge, Blanche Fargason,	*Urbana.*
Breckenridge, Gladys,	*Urbana.*
Busey, Mary,	*Urbana.*
Chester, Maybelle,	*Champaign.*
Claybourn, Grace Myrtle,	*Champaign.*
Collison, Inez,	*Potomac.*

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Cramer, Bessie C,	*Champaign.*
Cramer, Jessie C,	*Champaign.*
Crawford, Helen,	*Champaign,*
Hanson, Mabel Irene,	*Urbana.*
Harnsberger, Bertha Sawyer,	*Champaign.*
Hosford, Pearl Wright,	*Urbana.*
Howser, Beryl,	*Urbana.*
Knowles, Gertrude,	*Moweaqua.*
Laflin, Mary Elizabeth,	*Champaign.*
Lindley, Etheldred Frank,	*Urbana.*
Lindley, Jessie Salome,	*Urbana.*
Littler, Hazel Mildred,	*Urbana.*
Lohman, Leona Alice,	*Urbana.*
Nuckolls, Mary Elizabeth,	*Urbana.*
Schulte, Loretta,	*Hopedale.*
Simcox, Minnie Thressa,	*St. Joe.*
Williams, Roy,	*Monticello.*
Young, Gracie Sadie,	*Bondville.*

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SUMMARY OF STUDENTS—1900-1901.

	Men.		*Women.*		*Total.*	
GRADUATE SCHOOL		66		9		75
UNDERGRADUATE COLLEGES—						
Seniors	120		46		166	
Juniors	128		62		190	
Sophomore	138		55		193	
Freshmen	254		83		337	
Specials	96		64		160	
		736		310		1046
SPECIALS IN AGRICULTURE		103		6		109
SUMMER TERM		70		45		115
SATURDAY TEACHERS		6		6		12
COLLEGE OF LAW—						
Third year	21		1		22	
Second year	19		1		20	
First year	42		1		43	
Specials	14				14	
		96		3		99
COLLEGE OF MEDICINE—						
Seniors	170		16		186	
Juniors	178		11		189	
Sophomores	152		9		161	
Freshmen	108		9		117	
Specials	17		3		20	
		625		48		673
SCHOOL OF PHARMACY—						
Seniors	69		2		71	
Juniors	110		1		111	
		179		3		182
PREPARATORY SCHOOL		201		52		253
		2,082		482		2,564
Deduct counted twice		42		17		59
Total in University		2,040		465		2,505

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DEGREES

Commencement Day, June 13, 1900, degrees were conferred as follows:

A.B.

Harriet Elizabeth Ashley.
Edith Page Bennett.
Jessie Jane Bullock.
Robert Oscar Busey.
John Kenyon Bush.
Bruce Alexander Campbell.
Clyde Capron.
George Alexander Darmer.
Frank D Francis.
Hugh Joseph Graham.
Elizabeth T Hall.
John Calvin Hall.
John Edward Hannan.
Oliver Albert Harker, Jr.,
Nancy Emma Hartrick.
David Hassleton Harts, Jr.
Zella Bernice Hayes.
Thomas Moulton Headen.
Clarence Wilbert Hughes.
George Thomas Jordan.
James Piatt Kratz.
Helen Louise McWilliams.
Lydia Maria Mather.
Fred Earle Newton.
William Gay Palmer.
Cornelius James Peeples.
Arthur Clifford Quisenberry.
Neal Daniel Reardon.
Edna Almira Rugg, A.B.
Charles A Ryburn.
Benjamin Harrison Scudder.
William Walter Smith.
George Henry Thompson.
Seth Fields VanPatten.
Harvey Edgerton Wood.
William Francis Woods.

B.S.

Bertrand Buhre Abry.
Joseph Maria Alarcó.
Jerome Gustav Appelquist.
William Jay Brown.
Eugene Irving Burke.
Elmer Burroughs.
Walter Samuel Church.
Burton Robison Corbus, M.D.
Stanislaw Dowiatt.
Clarence LeRoy Eddy.
John William Fisher.
William Grant Foster.
Harry Bert Fox.
Harry Eben Freeman.
George Gibbs, Jr.
Robert Gray.
Rachelle Margaret Hanson.
Harry Hasson.
William Albert Hawley.
Edward George Hines.
Robert Grant Holabird.
Charles Sunderland Johnson.

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Arthur Russell Johnston.
Henry Ezra Keeney.
George Frank Kepler.
Asa Baird Kirkpatrick.
Benjamin Franklin Krahl.
Alfred Leonard Kuehn.
Jennie Mary Latzer.
John Oscar Laugman.
Julian Lisiecki Lee.
Charles Louis Logue.
Howard VanReed Maury.
Edwin Lyman Mayall.
Stillwell Frederick Merrill.
Marion Michael Null.
Wilkins Hoover Owens.
Robert Gerald Pettinger.
Theodore Clifford Phillips.
Earle Royal Pollard.
Ernest William Ponzer.
Chessley Justin Posey.
William Emilius Praeger.
Guy Richardson Radley.
Fred William Reimers.
Raymond Craver Ricker.
Ernest Thompson Robbins.
Lloyd Silas Robertson.
Carl John Frederick Rochow.
Martha Deette Rolfe.
Edward Brigham Safford.
Edward John Schneider.
Roy Harley Slocum.
George Russell Smith.
Harvey Allen Soverhill.
Benjamin Benton Stakemiller.
Frank Asbury Strout.
Harry Roberts Temple.
John Charles Thorpe.
Walter Simeon Tyler.
Marie L Waldo.
Otto Charles Wehrstedt.
Raymond Sly Wiley.
Clifford Willis.
George Thomas Henry Wray.

B.L.S.

Sarah Ambler, M.S.
Florence Maria Beck.
Elizabeth Branch.
Linda Marie Clatworthy.
Pauline Gunthorp, B.L.
Georgetta Haven.
Ida Louise Jackman.
Torstein Jahr, A.B.
Olive Clarice Lathrop.
Anna May Price.
Helen Louise Price.
Adele Cooper Reed.
Delia Cleora Sanford.
Ida Estelle Sawyer, Ph.B.
Minnie Earl Sears, M.S.
Blanche Seely, B.L.
Gertrude Shawhan, B.L.
Mabel Claire Shrum.
Adam Julius Strohm.
Caroline Wandell.
Willard Otis Waters, A.B.
Maybelle Gay West, B.L.
Lucy Bertha Ely Willcox.

LL.B.

Otto C Adams.
Zion Frost Baker.
George Francis Barrett.
Hobart Sherman Boyd.
Fred Worth Cooper.
William John Dolan.
Oliver Kinsey Doney.
Horace Raymond Dougherty, A.B.
William John Fulton, A.B.
Leslie Leland Glenn.

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Otis Ferguson Glenn.
Harry Altman Grossberg.
Margaret Adele Ketchum.
Fred Hutchinson May.
Albert Danforth Mulliken.
Samuel Ostrowski.
Charles Churchill Pickett, A.B.
Edward Melvin Rhodes.
Arthur Roe.
Elbert Mallary Rowland.
Louis Byron Saffer.
Peter Philip Schaefer.
Charles Wesley Tooke, A.M.
John Howard Trevett.
Chester S Van Brundt.
Adolph Henry Wesemann.

A.M.

Margaret Henrietta Johanne Lampe.
Arthur Elijah Paine.
Hadley Winfield Quaintance.
Marion Emeline Sparks.
Charles Jefferson Waits.

M.L.

George Henry Campbell.

M. Arch.

Ralph Wilson Weirick.

C.E.

Milo Smith Ketchum.
Richard Bird Ketchum.

E.E.

William Frederick Schulz.

M.E.

George Alfred Goodenough.
Oscar Adolph Leutwiler.

M.S.

Fritz Conrad Koch.
John Albert Latzer.
William Priestley McCartney.
Edward Lawrence Milne.
Grace Lillian Moore.
Horace Chamberlain Porter.

At the Commencement of the School of Medicine, April 18, 1900, degrees were conferred as follows:

M.D.

Archibald John Alcorn.
Elmer K. Avery.
Margaret McConnell Babcock.
Edmund J. Ball.
Edward Francis Besser.
John Rasmussen Birkelund.
Fred Curtis Blackwelder.
Max Emanuel Bloch.
Clyde Allison Boice.
Arthur Gustavus Bosler.
Arthur Bremken.
Hadley Cyprian Brown.

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Edward Lawrence Burke.
Clark Asahel Buswell, B.S.
William Wilson Cassidy.
Elwin Otis Church.
Marshall Grant Clancy.
Orson Whitney Clark.
Burton Robison Corbus.
John Francis Crowley.
John Thayer Culver, M.D.
Asa Nathan DeVault, Ph.G.
Charles Allen DeVoe.
Felix Albert Dolan.
Joseph Patrick Donovan.
Guy Grigsby Dowdall, B.L.
William Francis Dryden.
Ora Berton Dunham.
Robert Jones Dysart, A.B.
Calvin Sylvester Early, B.S., Ph.G.
Sara Thomas Elliott.
Nellie C. Flint, B.S., M.D.
George Albert Flippen.
John Peter Freeman.
Roe George Gale, M.D.
Edward Arthur Gansel.
Abel Benson George.
Clifford Freeman Gilmore, B.S.
Henry French Goodwin, A.B.
Sara Elains Greenfield, A.B.
Wendell B. Grinnell.
Louis Joseph Halloin.
Howard Brownslee Hamilton, A.B.
Wilbur S Hamilton, M.D.
Robert Roy Hampton.
Henry George Hart.
Clarence Wright Heath, B.L.
Robert Bruce Hixson.
Edward Percival Hummel.
Everett May Hurst.
Edward Everett Hyde, A.B.
Siegfried Jakubowski.
James Arthur Jennings, M.D.
Robert Moore Johnston, A.B.
Guy Henry Just.
Alonzo Blackburn Kirk.
Frederick Peter Knauf.
George John Laben, B.S.
Bernard Luehrsmann.
John William McConnell.
Olin McCormick.
Walter Robert McCray, Ph.G.
Ada Luella Malick.
Ernest Edward Martin.
Vandy Frank Masilko.
Harry Philson Mason.
John Joseph Meany.
John Earle Meloy.
Irwin Wagner Metz, A.B.
John Henry Meyhaus.
Bernard Miller.
Gustav August Miller.
William Denton Milroy, A.B.
Paul Stafford Mitchell, M.D.
William Nelson Moffett, B.S.
Gustav Herman Moldenhauer.
Richard Charles Monahan.
Lewis Moody, A.B.
Mary Emma Morgan.
Carl George Muehlmann, Ph.G.
Frank Emil Nagel.
George Frederick Niblock, A.B.
Edwin Henry Newbold, M.D.
William Jacob Nier.
Soren Svalheim Norsman.
Francis Elbert North.
Charles Homer Newell, M.D.
John Christopher O'Day.
Antonio Fredcrico Odoardo.
Claude Fenton Osborne.
Ralph Fleetwood Palmer.
William Edward Patterson.
James Mathew Phalen, Ph.G.
Dyre Henry Pelletier.

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Walter Jewett Pinkerton.
Vaclav Podstata, M.D.
Ward Elverton Potter, Ph.G.
Harry Edward Purcell.
Arthur Jacob Richter.
Jesse Samuel Rinehart.
Henry Joseph Rock, B.S.
Felix Rose.
Chandler Preston Runyan.
Bayard Edward Ryder.
Frank Loring Sargeant.
Franklin Wesley Sassamann, M.D.
Robert David Scott, Ph.G.
George Lucien Sears.
Louis Delos Sheppard.
Arthur William Sieker, A.B.
Seth Marian Billings Smith.
Antone Augustus Sornsen, M.D.
Robert Thomas Spain, Ph.G.
Max Staehle.
Elmer Louis Syverson, B.L.
Roland Bert Taber, Ph.G.
Rudolph Freimuth Teschan.
James Raymond Thompson.
Samuel James Torney.
Henry Edward Twohig.
Earle Henry Tyson.
Henry Ansel Vincent.
Charles Bernard Voigt.
Carl Voss, A.B.
Charles Delamere Wall.
John Weatherson, C.E.
Theodore Campbell West.
Joseph Emanuel Westerlund, A.B.
John West Wilson, M.D.
W. Weir Wood.
Erwin Wendell Woodford.
John Henry Xelowski, Ph.G.
Julius Rudolph Yung.
Joseph Pius Zaleski, Ph.G.

AD EUNDEM DEGREE

Dr. George F. Butler, Chicago.

HONORARY DEGREE

Dr. Victor C Vaughan, Ann Arbor, Mich.
Dr. Wm. E. Quine, Chicago.
Dr. John B. Murphy, Chicago.

At the Commencement of the School of Pharmacy, April 26, 1900, degrees were conferred as follows:

PH.G.

John William Alexander.
Almond Clifford Arnold.
Moses Barnett.
Rudolph Siegfried Boehm.
Walter Caron.
William Henry Daily.
Raymond August von Danden.
Leonard Watkins Davis.
T Guthred Drake.
Fred Henry Drallmeir.
Irving Lewis Emerson.
Arthur S. Gillette.
William Rice Graham.
Walter Holderread.
Gilbert Houseman.
Abraham Arthur Jackola.
Clarence Lorenzo James.
William Leonard Jansen.
John August Johnson.
George Arthur Kiedaisch.

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Anton Kucera.
John Whitaker Lawrence.
Joseph Matthew Lestina.
George Henry Paul.
Fred Horace Priest.
William Ernest Rose.
Louis Schreiber.
Leo Kleinert Solomon.
Alfred Wenzel Stamm.
George Edward Steyer.
Charlotte Elizabeth Stimson.
Alfred Reuben Utt.
Philip Darius Vincent.
Alvernon Frank Warhanik.
Charles Jeremiah Webster.
Alfred Tennyson Weible.
Walter Henry Wellman.

HOLDERS OF SCHOLARSHIPS AND COMMISSIONS

HONORARY SCHOLARSHIPS

McDonough,	Provine, Loring H.,	Macomb.
McDonough	Hampton, Ethel A.,	Macomb.

STATE SCHOLARSHIPS

Adams,	Luther, Otto L.,	Quincy.
Adams,	Stone, Charles N.,	Quincy.
Alexander,	Slocum, Mary J.,	Loda.
Bond,	Wolleson, Herbert H.,	Belleville.
Boone,	Dake, Leroy G.,	Harvard.
Bureau,	Cook, William A.,	Urbana.
Bureau,	Gillham, Philip D.,	Princeton.
Carroll,	Franks, Charles W.,	Brookville.
Champaign,	Hartrick, Louis E.,	Urbana.
Champaign,	Draper, Charlotte E.,	Urbana.
Champaign,	Chapin, Lucy,	Champaign.
Christian,	DeMotte, Ruby T.,	Urbana.
Christian,	Evans, Kenneth,	Taylorville.
Clark,	Hunter, Lum,	Paris.
Clinton,	Maxey, Mima A.,	Carlyle.
Coles,	Frost, Frank G.,	Gays.
Coles,	Taylor, Elsie M.,	Tuscola.
Cook, 1st District,	Berger, John M.,	Dolton.
Cook, 2d District,	Bushnell, George S.,	Englewood.
Cook, 3d District,	McRobie, Isabel,	Chicago.
Cook, 4th District,	Greene, Charles T.,	Chicago.

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Cook, 5th District,	Schroeder, Curt A.,	Chicago.
Cook, 7th District,	Hoff, Edna D.,	Chicago Heights.
Cook, 11th District,	Bradshaw, Jessie I.,	Chicago.
Cook, 12th District,	Dolkart, Leo,	Chicago.
Cook, 21st District,	McCarthy, John J.,	Chicago.
Cumberland,	Lindley, Walter C.,	Neoga.
Cumberland,	Stephenson, Lewis A.,	Redmon.
DeWitt,	Tull, Effie M.,	Farmer City.
DeWitt,	Noe, Samuel R.,	Milmine.
Douglas,	Williams, Mary E.,	Newman.
Edgar,	Thompson, McDonald,	Isabel.
Edgar,	Dayton, Laura,	Paris.
Fayette,	Cox, Claude H.,	Vandalia.
Ford,	Barr, John,	Urbana.
Fulton,	Whitehouse, Edith U.,	Canton.
Grundy,	Rose, Fred W.,	Mazon.
Hancock,	Smith, Roy,	Colusa.
Hancock,	Worrell, J. C.,	Chili.
Henderson,	McMillan, Edward A.,	Biggsville.
Iroquois,	Pletcher, Nuba M.,	Hoopeston.
Iroquois,	Meyer, Robert C.,	Gilman.
Jo Daviess,	Leverton, Ernest R.	Warren.
Kane,	Hoppin, Charles A.,	Aurora.
Kankakee,	Zartman, Lester W.,	Grant Park.
Kendall,	Bassett, Herbert,	Yorkville.
Knox,	Sussex, James W.,	Abingdon.
Lake,	Kemp, John E.,	Lake Forest.
Lee,	Burnham, Edna S.,	Dickson.
Livingston,	Bundy, Ralph P.,	Urbana.
Livingston,	Tombaugh, Muron D.,	Munster.
McHenry,	Gilkerson, Aletha,	McHenry.
McHenry,	Stevens, Lucia A.,	Marengo.
McLean,	Barnhart, Charles A.,	Mansfield.
Macon,	Lytle, Ernest B.,	Decatur.
Macon,	Davis, Cleon L.,	Mt. Zion.
Macoupin,	Richardson, Robert E.,	Shipman.
Macoupin,	Turner, Charles,	Hillsboro.
Madison,	Mojonnier, Timothy,	Highland.
Madison,	Stocker, Clarence H.,	Highland.
Marion,	McCullough, John F.	Centralia.
Marshall,	Munsen, Andrew,	Ohio.
Mason,	Crowder, Lenora E.,	Havana.

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Mercer,	Drury, Ralph S.,	New Boston.
Montgomery,	DeMotte, Roy J.,	Taylorville.
Montgomery,	Chacey, Anna O.,	Hillsboro.
Montgomery,	Barry, George R.,	Hillsboro.
Morgan,	Gray, Bartlett S.,	Jacksonville.
Moultrie,	Harshman, Lucius R.,	Sullivan.
Ogle,	Brayton, Louis F.,	Mt. Morris.
Ogle,	Waterbury, Leslie A.,	Polo.
Ogle,	Richey, John J.,	Polo.
Piatt,	Hinkle, Ida M.,	Bement.
Piatt,	Dawson, Charles H.,	Bement.
Piatt,	Holcomb, Clarence E.,	Milmine.
Peoria,	Burkhalter, Wayne E.,	Peoria.
Peoria,	Engstrom, Roy V.,	Peoria.
Pike,	Lummis, Jessie I.,	Quincy.
Putnam,	Mills, Floyd E.,	Mt. Palatine.
Richland,	Coen, Homer C.,	Olney.
Rock Island,	Dart, Whitman,	Rock Island.
St. Clair,	Updike, Hector,	Belleville.
Sangamon,	Williams, Simon,	Illiopolis.
Stark,	Stewart, Miles V.,	Toulon.
Tazewell,	Armeling, Carl E.,	Mason City.
Vermillion,	Stanley, Otis O.,	Champaign.
Vermillion,	Crosthwait, George A.,	Urbana.
Warren,	Malcolm, Charles W.,	Roseville.
Whiteside,	Warner, Harry J.,	Prophetstown.
Will,	Reeves, George I.,	Wauponsee.
Winnebago,	Johnson, Albert M.,	Kishwaukee.
Winnebago,	Penfield, Albert C.,	Rockford.

AGRICULTURAL SCHOLARSHIPS

Alexander,	Kuster, Arthur,	Mahomet.
Bond,	Whiteford, Milton,	Manito.
Boone,	Bennett, Samuel A.,	Belvidere.
Boone,	Warne, John H.,	Batavia.
Brown,	Duncan, Fred T.,	Seaton.
Bureau,	Bryant, Arthur W.,	Princeton.
Bureau,	Wilson, Leroy,	Princeton.
Calhoun,	Sanford, Wilber H.,	Murrayville.
Carroll,	Begeman, George,	Elkhorn Grove.
Carroll,	Hendrick, Lewis C.,	Milledgeville.
Cass,	Jones, James H.,	ElDara.

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Champaign,	Howe, Ralph B.,	Urbana.
Christian,	Dalbey, Dwight S.,	Taylorville.
Christian,	Large, Harry	Millersville.
Clark,	Shinn, James R.,	Mattoon.
Clay,	Dorsey, Clarence B.,	Moro.
Clay,	Mills, James B.,	Clay City.
Clinton,	Pittman, Elmer D.,	Mahomet.
Coles,	Ames, Harvey N.,	Mattoon.
Cook,	Williams, Myron B.,	Evanston.
Cook, 1st Cong. Dist.,	Wing, DeWitt C.,	Chicago.
Cook, 2nd Cong. Dist.,	White, Earle A.,	Loon Lake.
Cook, 3rd Cong. Dist.,	Anderson, Hervey H.,	Chicago.
Cook, 4th Cong. Dist.,	Wolf, Edd,	Farina.
Cook, 5th Cong. Dist.,	Scudder, Harry D.,	Chicago.
Cook, 6th Cong. Dist.,	Ahlswede, Arthur C.,	Chicago.
Crawford,	Gillespie, Charles M.,	Paris.
DeKalb,	Rector, John F.,	Smithfield.
DeWitt,	Bronson, Eugene V.,	Urbana.
Douglas,	Howell, Carrie B.,	Urbana.
Douglas,	Goodspeed, Wilber F.,	Tuscola.
DuPage,	Howard, Wallace L.,	Sheffield.
DuPage,	Taylor, Albert B.,	Normal.
Edgar,	Clapp, Ivan B.,	Grand View.
Edwards,	Coons, Clarence W.,	Bloomington.
Effingham,	Bernhard, Susanna S.,	Shumway.
Effingham,	Ruffner, Lester L.,	Mason.
Fayette,	Bonnell, William L.,	Elondale.
Fayette,	Scott, Gilbert W.,	Franklin.
Ford,	Richardson, George M.,	Williamsville.
Ford,	Alford, Irving S.,	Sibley.
Franklin,	Rankin, W. J. R.,	White Heath.
Fulton,	Lloyd, Robert C.,	Canton.
Fulton,	Cattron, John W.,	Fairview.
Gallatin,	Winterberger, Ralph,	Junction.
Greene,	Constant, Harvey J.,	Illiopolis.
Grundy,	Dewey, Henry E.,	Mazon.
Hamilton,	Southwick, Frank E.,	Odell.
Hamilton,	Walcher, Charles E.,	Millersville.
Hancock,	Worthen, Edmund L.,	Warsaw.
Hardin,	Logan, Clarence C.,	Flora.
Henderson,	Beal, Perry L.,	Reed.
Henry,	Finley, Joseph O.,	Oneida.

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Henry,	Stitt, Harry W.,	Alpha.
Iroquois,	Meier, Hermann E.,	Woodworth.
Iroquois,	Flagg, David R.,	Clarence.
Jackson,	Wells, Fred M.,	Moline.
Jackson,	Zeigler, Wilfred I.,	Clinton.
Jasper,	Carr, Henry B.,	Lis.
Jefferson,	Haight, Samuel J., Jr.,	Mendota
Jefferson,	Wood, Clifton J.,	Friendsville.
Jersey,	Riehl, Anna,	Alton.
Jo Daviess,	Hartzell, John C.,	Mason City.
Johnson,	Hedges, Samuel R.,	Urbana.
Kane,	Basting, Ferdinand, Jr.,	Yuton.
Kane,	Watson, Clarence C.,	Woodstock.
Kankakee,	Viall, Frank L.,	Manteno.
Kankakee,	Issert, Jules P.,	Manteno.
Kendall,	Fellingham, Clark H.,	Verona.
Kendall,	McClelland, Robert A.,	Yorkville.
Knox,	Mitchell, Maurice F.,	Oneida.
LaSalle,	Center, Orlo D.,	Grand Ridge.
Lawrence,	Montgomery, William H.,	Aledo.
Lawrence,	Readhimer, Jerome E.,	Champaign.
Lee,	Upton, Mabel E.,	Rochelle.
Livingston,	Spence, William D.,	Fairbury.
Logan,	Applegate, Archie B.,	Atlanta
McDonough,	Miner, Aaron W.,	Adair.
McHenry,	Marsh, Ralph G.,	Huntley.
McLean,	Creamer, William C.,	Tolono.
Macon,	Wade, Albert E.,	Decatur.
Macon,	McGrath, Sylvester J.,	Warrensburg.
Macoupin,	Neff, Martin L.,	Petersburg.
Madison,	Wetzel, Adolph J.,	Alhambra.
Marion,	Thompson, Clarence,	Champaign.
Marion,	Schermerhorn, May,	Kinmundy.
Marshall,	Perkins, H. L. B.,	Beaconsfield.
Mason,	Kreiling, Christian,	Bishop.
Massac,	Oakes, Arthur M.,	Metropolis.
Massac,	Lindsey, Norman W.,	Samoth.
Menard,	Culver Carl A.,	Athens.
Mercer,	Clay, John L.,	Galesburg.
Monroe,	McCarty, John,	Arcola.
Montgomery,	Paisley, Robert H.,	Irving.
Morgan,	Shaw, Guy L.,	Summer Hill.

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Moultrie,	Wise, J. Roy,	Savoy.
Ogle,	Carmichael, Berton E.,	Rochelle.
Peoria,	Winter, Jay W.,	Wenona.
Perry,	Fulton, Eugene,	Gibson City.
Piatt,	Bronson, Bertha V.,	Urbana.
Pike,	Stebbins, Roy,	Summer Hill.
Pulaski,	Endicott, Robert B.,	Villa Ridge.
Pulaski,	Dille, Charles E.,	Villa Ridge.
Putnam,	Williams, Gardner R.,	Putnam.
Richland,	Stookey, Marshall C.,	Harristown.
Rock Island,	Eckhardt, William G.,	Buffalo Prairie.
Rock Island,	Armstrong, Robert M.,	Preëmption.
St. Clair,	Eidmann, Gustav H.,	Mascoutah.
St. Clair,	Hill, Arthur H.,	Dundee.
Saline,	Coleman, Clyde B.,	New Windsor.
Saline,	Dunlap, Nora B.,	Savoy.
Sangamon,	Ladage, Fred W.,	Woodside.
Sangamon,	Stitt, William B.,	Berlin.
Schuyler,	Thompson, James A.,	Layton.
Scott,	Constant, Irwin J.,	Dawson.
Scott,	Schuppel, Henry C.,	Barclay.
Shelby,	Jenkins, Elbert A.,	Tower Hill.
Shelby,	Miller, William E.,	Tower Hill.
Stark,	Moffitt, Minor,	Taylor Ridge.
Stephenson,	Stocks, Harry B.,	Eleroy.
Stephenson,	Bushman, Virgil E.,	Milledgeville.
Tazewell,	Allen, Paschal,	Delavan.
Union,	Camp, George R.,	Harristown.
Vermillion,	Gilbert, Charles H.,	Armstrong.
Wabash,	Ewald, John J.,	Belmont.
Wabash,	Lingenfelter, Lee E.,	Mt. Carmel.
Wayne,	Callaway, Leonard W.,	Tuscola.
Whiteside,	Lemon, Louis,	Galesburg.
Will,	Forsythe, John,	Elwood.
Williamson,	Trapp, William E.,	Lincoln.
Winnebago,	Temple, Ralph W.,	Elida.
Winnebago,	Nelson, Emma E.,	Rockford.
Woodford,	VanMeter, Anna R.,	El Paso.

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COMMISSIONS AS BREVET CAPTAINS, ILLINOIS NATIONAL GUARD, ISSUED BY THE GOVERNOR IN 1900.

Jerome Gustav Appelquist, Clarence LeRoy Eddy, William Grant Foster, William Albert Hawley, Edward George Hines, James Piatt Kratz, Charles Lewis Logue, William Gay Palmer, George Russell Smith, Raymond Sly Wiley.

WINNER OF HAZELTON PRIZE MEDAL, 1900

Robert Frederick Tegen.

ROSTER OF OFFICERS AND NON-COMMISSIONED OFFICERS, UNIVERSITY REGIMENT.

Field and Staff—
Lieutenant Colonel, O. L. Housel.
Major 1st Battalion, H. W. Baker.
Major 2d Battalion, C. H. Chapman.
Captain and Adjutant, C. E. Wetherbee.
Sergeant Major, J. F. Duffy.
Drum Major, H. C .Morse.

Company A—Captain T. I. Fullenwider; First Lieutenant, S. Wolff; Second Lieutenant, J. C. Jones; First Sergeant, H. W. Whitsitt; Sergeants, N. C. Morrow, C. H. Bean, R. C. McMillan, M. A. Delzell; Lance Sergeants, S. D. Fairchild, A. M. Oyen; Corporals, H. M. Price, N. J. Higinbotham, R. M. Smith, R. E. Travis, H. W. Day, R. V. Engstrom.

Company B—Captain, W. C. Short; First Lieutenant, E. L. Draper; Second Lieutenant, W. P. Ireland; First Sergeant, R. F. Tegen; Sergeants, C. Thompson, L. H. Provine, R. J. Stewart, J. E. Shoemaker; Corporals, F. W. Hilliard, J. W. Cattron, H. B. Barry, S. T. Henry, C. H. Gibbs, H. Corbin.

Company C—Captain, H. F. Post; First Lieutenant, I. M. Western; Second Lieutenant, R. P. Shimmin; First Sergeant, A. Platt; Sergeants, F. L. Gossman, B. H. Prater, C. H. Green, B. S. McMahan; Lance Sergeant, H. Eckstorm; Corporals, R. H. Post, G. A. Schmidt, C. C. Wiley, S. G. Brink, W. L. Howard, H. W. Ellis.

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THE UNIVERSITY CALENDAR

1902-1903.

Sept. 10, 1902, to Jan. 29, 1904.

1902. FIRST SEMESTER.

Sept. 10, Wednesday.	Entrance Examinations begin.
Sept. 15, 16, Monday and Tuesday.	Registration Days.
Sept. 17, Wednesday.	Instruction begins.
Nov. 3, Monday.	Latest date for Announcing Subjects of Theses.
Nov. 27, Thursday.	Thanksgiving Day.
Dec. 24, Wednesday.	Holiday Recess begins.
1903.	
Jan. 6, Tuesday.	Instruction resumed.
Jan. 30, Friday.	First Semester ends.

SECOND SEMESTER.

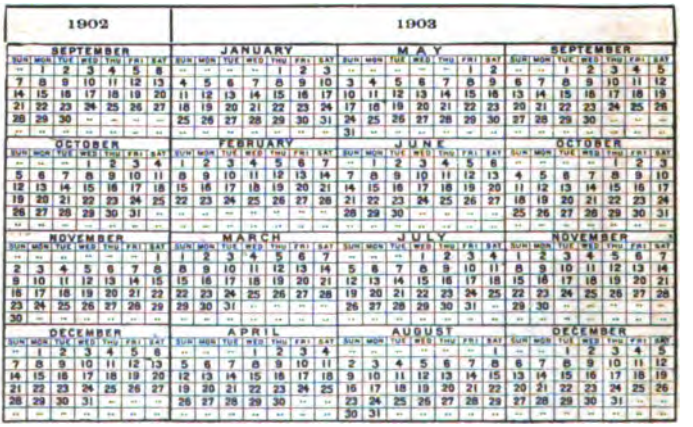
Feb. 2, Monday.	Instruction begins.
May 13, 14, 15, Wednesday to Friday.	University High School Conference.
May 15, Friday evening.	Interscholastic Oratorical Contest.
May 14, 15, 16, Thursday to Saturday.	Public School Art Exhibit.
May 16, Saturday.	Interscholastic Athletic Meet.
May 25, Monday.	Hazelton Prize Drill.
May 26, Tuesday.	Competitive Drill.
May 29, Friday.	Latest Day for Acceptance of Theses.
June 7, Sunday.	Baccalaureate Address.
June 8, Monday.	Class Day.
June 9, Tuesday.	Alumni Day.
June 10, Wednesday.	Thirty-first Annual Commencement.

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FIRST SEMESTER.

Sept. 9, **Wednesday.**	Entrance Examinations **begin.**
Sept. 14, 15, **Monday and Tuesday.**	Registration **Days.**
Sept. 16, Wednesday.	Instruction begins.
Nov. 2, **Monday.**	Latest date for Announcing Subjects of Theses.
Nov. 6, **Thursday,**	Thanksgiving Day.
Dec. 23, **Wednesday.**	Holiday Recess begins.
1904.	
Jan. 5, **Tuesday.**	Instruction **resumed.**
Jan. 29, **Friday.**	First Semester **ends.**

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STATE LABORATORY OF NATURAL HISTORY

LABORATORY STAFF

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AGRICULTURAL EXPERIMENT STATION

STATION STAFF

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UNIVERSITY OF ILLINOIS

LOCATION

The University of Illinois is situated in Champaign County, in the eastern central part of the state, between the cities of Urbana and Champaign, and within the corporate limits of the former. It is one hundred and twenty-eight miles south of Chicago, at the junction of the Illinois Central, the Cleveland, Cincinnati, Chicago and St. Louis, and the Wabash railroads. The country around is a rich and prosperous agricultural region. The cities of Urbana and Champaign have, together, a population of about 15,000.

HISTORY

In 1862 the national government donated to each state in the Union public land scrip in quantity equal to 30,000 acres for each senator and representative in congress, "for the endowment, support and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

On account of this grant the state pays the University, semi-annually, interest at the rate of five per cent. on about $595,000, and deferred payments on land contracts amount, approximately, to $50,000.

To secure the location of the University several counties entered into competition by proposing to donate to its use

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specified sums of money, or their equivalent. Champaign County offered a large brick building in the suburbs of Urbana, erected for a seminary and nearly completed, about 1,000 acres of land, and $100,000 in county bonds. To this the Illinois Central Railroad added $50,000 in freight. The General Assembly accepted this offer May 8, 1867.

The state has from time to time appropriated various sums for permanent improvements, as well as for maintenance. The present value of the entire property and assets is estimated at $2,000,000.

The institution was incorporated February 28, 1867, under the name of the Illinois Industrial University, and placed under the control of a Board of Trustees, constituted of the Governor, the Superintendent of Public Instruction and the President of the State Board of Agriculture, as *ex-officio* members, and twenty-eight citizens appointed by the Governor. The chief executive officer was called Regent, and was made an *ex-officio* member of the Board, and presiding officer both of the Board of Trustees and of the Faculty.

In 1873 the Board of Trustees was reorganized, the number of appointed members being reduced to nine and of *ex-officio* members to two—the Governor and the President of the State Board of Agriculture. In 1887 a law was passed making membership elective, at a general state election, and restoring the Superintendent of Public Instruction as an *ex-officio* member. There are, therefore, now three *ex-officio* and nine elective members. Since 1873 the President of the Board has been chosen by the members from among their own number for a term of one year.

The University was opened to students March 2, 1868. The number of students enrolled at this time was about fifty, and the Faculty consisted of the Regent and three professors. During the first term another instructor was added, and the number of students increased to 77—all young men.

During the first term instruction was given in algebra,

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geometry, physics, history, rhetoric, and Latin. Work on the farm and gardens, or about the buildings, was at first compulsory for all students. In March of the next year, however, compulsory labor was discontinued, save when it was made to serve as a part of class instruction. A chemical laboratory was fitted up during the autumn of 1868. Botanical laboratory work began the following year. In January, 1870, a mechanical shop was fitted up with tools and machinery, and here was begun the *first shop instruction* given in any American university. During the summer of 1871 the Wood Shops and Testing Laboratory, burned June 9, 1900, was erected and equipped for students' shop work in both wood and iron.

By vote, March 9, 1870, the Trustees admitted women as students. During the year 1870-71 twenty-four availed themselves of the privilege. Since that time they have constituted from one-sixth to one-fifth of the total number of students.

According to the original state law, the usual diplomas and degrees could not be granted by the University, but certificates showing the studies pursued and the attainments in each were given instead. The certificates proved unsatisfactory to the holders, and in 1877 the legislature gave the University authority to confer degrees and issue diplomas.

In 1885 the legislature changed the name of the institution to the "University of Illinois," and passed a bill transferring the *State Laboratory of Natural History* from the Illinois State Normal University to the University of Illinois. This laboratory was created by law for the purpose of making a natural history survey of the state, the results of which should be published in a series of bulletins and reports, and for the allied purpose of furnishing specimens illustrative of the flora and fauna of the state to the public schools and to the state museum. For these purposes direct appropriations are made by the legislature from session to session. A large amount of material has been collected,

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and extended publications have been made in both the forms above mentioned.

By an act approved March 2, 1887, the national government appropriated $15,000 per annum to each state for the purpose of establishing and maintaining, in connection with the colleges founded upon the congressional act of 1862, agricultural experiment stations, "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." Under this provision the *Agricultural Experiment Station* for Illinois was placed under the direction of the Trustees of the University, and a part of the University farm, with buildings, was assigned for its use. At least one bulletin of results is published every three months, and the copies are gratuitously distributed over the state. Editions of 19,500 copies are now issued.

In 1890 the Congress of the United States made further appropriations for the endowment of the institutions founded under the act of 1862. Under this enactment each such college or university received the first year $15,000, the second $16,000, and thereafter was to receive $1,000 per annum additional to the amount of the preceding year, until the amount reached $25,000, which sum was to be paid yearly thereafter.

On May 1, 1896, *the Chicago College of Pharmacy,* founded in 1859, became the *School of Pharmacy of the University of Illinois.* Its rooms are at 465 State Street, Chicago.

At the meeting of the Board of Trustees of the University held December 8, 1896, upon recommendation of the President of the University, the Trustees voted to take steps for the organization of a law school. Appropriations were made for salaries, for the purchase of books, and for incidental expenses. Pursuant to this action of the Board of Trustees, the *School of Law* was organized, and opened

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September 13, 1897. The course of study covered two years, in conformity with the existing requirements for admission to the bar in Illinois. In the following November, however, the supreme court of the state announced rules relating to examinations for admission to the bar which made three years of study necessary, and the course of study in the Law School was immediately rearranged on that basis. On February 9, 1900, the name of the School of Law was changed, by vote of the Board of Trustees, to *College of Law.*

Negotiations looking to the affiliation of the College of Physicians and Surgeons, of Chicago, with the University, which had been going on for several years, were concluded by the Board of Trustees by action taken upon propositions submitted by the College of Physicians and Surgeons to the Board at its meeting of March 9, 1897. According to the agreement made, the College of Physicians and Surgeons became on April 21, 1897, the *College of Medicine of the University of Illinois.* The College is located at 813 West Harrison Street, Chicago.

At the meeting of the Board of Trustees held April 22, 1897, the matter of the appointment of a librarian was considered by the Board and referred to a committee. This action of the Board was taken with a view of bringing to the University the School of Library Economy, which had been established in 1893 at the Armour Institute of Technology, in Chicago, and of securing the Director of that school for librarian of the University library. These plans were carried out and the *State Library School* was opened at the University in September, 1897.

Pursuant to action taken by the Board of Trustees March 12, 1901, a School of Dentistry was organized as a department of the College of Medicine. The school was opened October 3, 1901.

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BUILDINGS AND GROUNDS

The land occupied by the University and its several departments embraces about 210 acres.

The Chemical Laboratory is a three-story building, the ground plan of which is shaped like the letter E. The extreme dimensions are 230 feet along the front and 116 feet along the wings. The middle rear wing contains the lecture amphitheater, which will seat 350. The end wings contain the large general laboratories. The central part of the building is occupied by offices, museum, class and seminary rooms, supply rooms, etc., and a number of special rooms for research work. Under about two-thirds of the building there is a well-lighted basement, which, besides containing the heating and ventilating plant and rooms for assaying and metallurgy, affords ample space for storage.

Engineering Hall has a frontage of 200 feet, a depth of 76 feet on the wings, and 138 feet in the center. The first story contains the laboratories of the department of physics, the drafting seminary, and one of the recitation rooms of the department of electrical engineering, and the masonry laboratories and instrument rooms of the department of civil engineering. The second story contains the lecture room and the preparation rooms of the department of physics, the recitation and drawing rooms, cabinets, and studies of the departments of civil and municipal engineering, and the main office of the department of electrical engineering. The third story contains the elementary laboratory of the department of physics, the drawing rooms, lecture rooms, cabinets, and studies of the mechanical departments, as well as the library, the office, and the faculty parlor. The fourth story is devoted to the department of architecture, and contains drawing and lecture rooms, cabinets, a photograph studio, and a blue-print laboratory.

The Wood Shop is a building of brick, and stands on the site of the old Armory Building, which was burned in June, 1900. It is in the form of a cross, one portion

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being about 200 by 46 feet, one story high, while the other part is 52 by 80 feet and two stories high. This shop contains the bench room, lathe room, machine room, lecture room, exhibition room, tool room, office, and room for pattern storage and repair work.

The Metal Shops is a one-story brick building, 50 by 250 feet. It contains a lecture room, two office rooms, a machine shop, a foundry, and a forge shop. The machine shop is 48 by 140 feet. Power is supplied by a 20 H. P. electric motor. A three-ton traveling crane of 12 foot span covers the center of the floor for the entire length, extending over a covered driveway between the machine shop and foundry.

The Mechanical and Electrical Engineering Laboratory is a brick building, two stories high, 100 feet long, and 50 feet wide, with a one-story wing 90 feet long and 50 feet wide. There is also a basement under the main part, containing some special testing rooms, store rooms, and the toilet and wash rooms.

The Laboratory of Applied Mechanics is a brick building. The materials testing laboratory occupies the front, 45 by 65 feet, while the rear wing, 45 by 106 feet, contains the hydraulic laboratory.

The Central Heating Station is a brick building, 55 by 120 feet. It contains the apparatus used for heating the buildings on the campus. An annex contains the pump room and the stock room. The pipes of the heating system and the wires for power and light are carried from the Central Heating Station to the several buildings through brick tunnels 6½ feet high by 6 feet wide. The length of tunnel thus far constructed is 1,800 feet.

The Pumping Station of the University water-works is a brick building, 38 by 73 feet, connected with the Central Heating Plant. Two 8-inch wells 145 feet deep supply the University with wholesome water. A masonry reservoir provides for a fire reserve supply. The pumps, tanks, and connections are arranged to give opportunities for experi-

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mental work and also to vary the working conditions in the adjacent hydraulic laboratory.

The Armory, 100 by 150 feet in one grand hall, gives ample space for company and battalion maneuvers and for large audiences upon special occasions.

Natural History Hall is 134 by 94 feet, with basement, two main stories, and an attic. It is occupied by the departments of botany, zoölogy, physiology, mineralogy, and geology, for each of which there are laboratories, lecture rooms, and offices, and contains the office and equipments of the State Laboratory of Natural History. There are six laboratory rooms on each of the main floors—sufficient altogether to accommodate 200 students, besides offering abundant facilities for the private work of the instructors.

The Astronomical Observatory is in the form of the letter T, the stem of which extends toward the south. The equatorial room, surmounted by the dome, is at the intersection of the stem and bar of the T. Besides the equatorial room the Observatory contains four transit rooms, a clock room, a recitation room, a study, and dark rooms for photographic purposes.

University Hall occupies three sides of a quadrangle, measuring 214 feet in front and 122 feet upon the wings. It is devoted almost exclusively to class rooms.

The Library Building is 167 by 113 feet, with a tower 132 feet high. The main floor contains the reference room, the reading room, the conversation room, the Senior Library School room, and the delivery room, which opens into the second story of the book-stack. The second floor contains the junior Library School room, seminary rooms, the Bolter collection of insects, and the administrative offices of the University. The basement contains well-lighted rooms, which are at present used for various purposes. The book-stack is a rear wing to the building, separated from the rest of it by a fireproof wall. The stack will eventually contain five stories, and will accommodate 150,000 volumes. At present but three stories are fitted with shelving.

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The Agricultural Building has been recently completed at a cost of $150,000. It consists of four separate structures built around an open court and connected by corridors. The main building is 248 feet long, from 50 to 100 feet in depth, and three stories high, and contains offices, class rooms, and laboratories for the departments of agronomy, animal husbandry, dairy husbandry, horticulture, and veterinary science; offices of the State Entomologist; the chemical laboratory of the Experiment Station; commodious administration rooms; an assembly room with a seating capacity of 500, and on each floor a fireproof vault for records. The other three buildings are each 45 by 116 feet and two stories high; one is for dairy manufactures, one for farm machinery, and one for veterinary science and stock judging. These buildings are of stone and brick, roofed with slate, and contain, all told, 113 rooms and a total floor space of nearly two acres. An adjacent glass structure serves the departments of agronomy and horticulture. There are, in addition to these buildings, a veterinary hall, three dwellings, three large barns, and a greenhouse.

THE GYMNASIUMS

The Men's Gymnasium is a new three-story building of stone and pressed brick, 100 by 150 feet. On the first floor there is a swimming pool, lined with white enamel bricks, 26 feet wide, 75 feet long, and 8 feet deep at the lower end. This floor contains, also, the general locker room, which is fitted up with all-metal lockers, and with shower, tub, and steam baths; rooms for the University athletic teams; a room for visiting teams; a special dressing room for members of the faculty; offices for the physical director and athletic instructors, and a large room with a dirt floor for vaulting, jumping, putting the shot, etc. The entire second floor is one large room, which is fitted up with all the modern appliances for gymnastic exercise. The third floor contains an elevated running track, 15 laps to the mile, which is

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properly banked on the turns to secure the greatest speed and comfort in running.

The Women's Gymnasium occupies very attractive quarters in Natural History Hall, and is well equipped. The pastime grounds near by, in use through the year when the weather permits, have a sixteen-lap running track, eight tennis courts, two basket ball fields, and space for handball, hurdling, and other desirable amusements. Under suitable restrictions, at certain hours, the gymnasium is open for exercise to those who are not enrolled in the classes.

LABORATORIES

SCIENCE LABORATORIES*

The *botanical, geological, physiological, and zoölogical laboratories* are in Natural History Hall.

The *chemical laboratory* occupies the building of the same name, already described.

The *physical laboratory* is in Engineering Hall. It is provided with piers, a constant temperature room, and other conveniences for measurement work.

The *psychological laboratory,* in University Hall, is well provided with apparatus of many different kinds for use in experimental study, research, and instruction.

ENGINEERING LABORATORIES

The *cement laboratory* of the department of civil engineering occupies rooms in Engineering Hall.

The *electrical engineering laboratory* occupies space on three floors of the Mechanical and Electrical Engineering Laboratory.

The *mechanical engineering laboratory* occupies the rear wing of the Mechanical and Electrical Engineering Laboratory.

* For a more detailed account of these laboratories, see under the appropriate College.

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SPECIAL LABORATORIES FOR RESEARCH

The *chemical laboratory of the Agricultural Experiment Station* and the *student laboratory* for the study of fertility are situated on the third floor of the Agricultural Building, as are also the *physical* and *bacteriological laboratories* for the examination of soils.

The *materials and hydraulic laboratories* occupy the new Laboratory of Applied Mechanics.

The laboratory rooms of the *State Laboratory of Natural History* are in Natural History Hall.

A *Biological Station,* equipped for field and experimental work in aquatic biology, is maintained on the Illinois River by the State Laboratory of Natural History. It has its separate staff, but is open to students of the University at all times, on application, and during the summer months to special students not connected with the University.

A *laboratory for sanitary water analysis* has been equipped with all necessary appliances, and chemical investigation of the water supplies of the state is carried on.

COLLECTIONS

AGRICULTURAL

The various agricultural departments maintain collections illustrative of their work, prominent among which are those showing typical specimens of standard varieties of corn, wax models of fruit and vegetables, an extensive horticultural herbarium, specimens of many breeds of live stock, a large collection of farm machinery, and exhibits of negatives and samples showing progress of certain investigations, as with fruit and with corn.

BOTANICAL

The *herbarium* contains about 45,000 mounted specimens of plants. The flora of North America is fairly well represented, the collection of species of flowering plants indig-

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enous to Illinois is practically complete, and a considerable collection of foreign species has been made. The collections of fungi amount to 28,000 named specimens and include a full set of those most injurious to other plants, causing rusts, smuts, molds, etc. There are specimens of wood from 200 species of native trees and shrubs, which well illustrate the varieties of native wood.

Plaster casts represent fruits of many of the leading varieties as well as interesting specimens of morphology, showing peculiarities of growth, effects of cross-fertilization, etc.

ENGINEERING

The following departments of the College of Engineering have made extensive and valuable collections, which will be found in rooms in Engineering Hall.

ARCHITECTURE

A large number of specimens of stone, bricks, terra cotta, sanitary fixtures, casts of moldings and of ornament have been accumulated, together with some excellent specimens of industrial arts, models of structures, working drawings of important buildings, 3,000 lantern slides, 20,000 plates and photographs, and an excellent working library.

CIVIL ENGINEERING

The civil engineering department has a large room containing samples of iron, steel, wood, brick, and stone; materials for roads and pavements; models of arches and trusses, one of the latter being full-sized details of an actual modern railroad bridge. The department also possesses a very large collection of photographs and blue-print working drawings of bridges, metal skeleton buildings, masonry structures, and standard railroad construction.

ELECTRICAL ENGINEERING

The department has a collection of samples illustrating standard practice in the industrial applications of electricity. There is also a rapidly growing collection of lantern slides,

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photographs, blue-prints, drawings, pamphlets, and other engineering data.

MECHANICAL ENGINEERING

This department has among other things a partial set of Reuleaux models, together with models of valve gears, sections of steam pumps, injectors, valves, skeleton steam and water gauges, standard packings, steam-pipe coverings, and drop forgings. There are also fine examples of castings, perforated metal, defective boiler plates, and sets of drills, with numerous samples of oil, iron, and steel. A large number of working drawings from leading firms and from the United States Navy Department forms a valuable addition to the above collections.

GEOLOGICAL

Lithology is represented by type collections of rocks (9,000 specimens), arranged to illustrate Rosenbusch; from Voigt and Hochgesang, L. Eger, and A. Kranz; a type collection from Ward; 1,000 thin sections of rocks and minerals; a large number of ornamental building stones; a stratigraphic collection to illustrate Illinois geology, and a collection of Illinois soils (104).

The *mineralogical* collection is especially rich in rock-forming minerals, ores, and materials of economic value. It contains over 12,000 specimens carefully selected to meet the wants of the student, and 575 crystal models.

The *paleontological* collection (49,000 specimens) contains representative fossils from the entire geologic series. It embraces the private collections of A. H. Worthen (including 742 type specimens); Tyler McWhorter; Mr. Hertzer; 200 thin sections of corals; the Ward collection of casts, and a considerable number of special collections representing the fauna and flora of particular groups.

LIBRARY ECONOMY

A collection of books and pamphlets on library science, of library reports and catalogs, of mounted samples show-

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ing methods of administration in all departments, and of labor-saving devices and fittings has been made, and is arranged by the Dewey Decimal classification in the Library School seminary room.

PEDAGOGICAL

In the rooms of the department of education in University Hall is a considerable collection of illustrative material from the manual training departments of various schools; photographs of school buildings, drawings and constructive work by pupils in the public schools, and the nucleus of a representative collection of apparatus for the school laboratory.

ZOÖLOGICAL

The *zoölogical* collections have been specially selected and prepared to illustrate the courses of study in natural history, and to present a synoptical view of the zoölogy of the state.

The mounted mammals comprise an unusually large and instructive collection of the ruminants of our country, including male and female moose, elk, bison, deer, antelope, etc., and also several quadrumana, large carnivora and fur-bearing animals, numerous rodents, good representative marsupials, cetaceans, edentates, and monotremes. Fifty species of this class are represented by eighty specimens and all the orders, excepting the Proboscidea, are represented by mounted skeletons. There is also a series of dissections in alcohol, illustrating the comparative anatomy of the group.

The collection of mounted birds includes representatives of all the orders and families of North America, together with a number of characteristic tropical, Bornean, and New Zealand forms. The collection is practically complete for Illinois species. There is also a fine collection of the nests and eggs of Illinois birds. A series of several hundred unmounted skins is available for the practical study

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of species, and the internal anatomy is shown in alcoholic dissections, and in mounted skeletons of all the orders.

The cold-blooded vertebrates are represented by a series of mounted skins of the larger species, both terrestrial and marine; mounted skeletons of typical representatives of the principal groups; alcoholic specimens, both entire and dissected, and casts. The alcoholics include series of the reptiles, amphibians; and fishes, the latter comprising about 300 species. The dissections illustrate the internal anatomy of the principal groups. The casts represent about seventy-five species, nearly all fishes.

The Mollusca are illustrated by alcoholic specimens of all classes and orders, and dissections showing the internal anatomy of typical forms. There are several thousand shells belonging to 1,700 species. The collection of Illinois shells is fair but incomplete.

The collection of insects has been greatly extended and enriched by the Bolter Collection, donated to the University by the executors of the estate of the late Andreas Bolter, of Chicago, which now contains over 16,000 species, represented by about 120,000 specimens, named, labeled, and systematically arranged.

The lower invertebrates are represented by several hundred dried specimens and alcoholics, and by a large series of the famous Blaschka glass models.

The embryology of vertebrates and invertebrates is illustrated by several sets of Ziegler wax models, and numerous series of slides, sections, and other preparations.

In addition to the above, the extensive collections of the State Laboratory of Natural History are available for illustrative purposes, as well as for original investigation by advanced students.

ART GALLERY

The University Art Gallery was the gift of citizens of Champaign and Urbana. It occupies a room in the basement of the Library Building, and furnishes an excellent

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collection of models for students of art. In sculpture it embraces thirteen full-size casts of celebrated statues, forty statues of reduced size, and a large number of busts and bas-reliefs, making in all over 400 pieces. It includes also hundreds of large autotypes, photographs, and fine engravings, representing many of the great masterpieces of painting of nearly all the modern schools, and a gallery of historical portraits, mostly large French lithographs, copied from the great national portrait galleries of France.

Other collections of special value to art students embrace a large number of casts of ornament from the Alhambra and other Spanish buildings, presented by the Spanish government; a set of casts from Germany, illustrating German renaissance ornament; a series of art works from the Columbian Exposition; large numbers of miscellaneous casts, models, prints, and drawings, such as are usually found in the best art schools, and a model in plaster and a complete set of drawings of a competitive design by Henry Lord Gay for a monument to be erected in Rome, commemorative of Victor Emmanuel, first king of Italy.

LIBRARIES

The general University library, the library of the State Laboratory of Natural History, that of the Agricultural Experiment Station, and that of the College of Law are all at the University in Urbana. The libraries of the College of Medicine and the Schools of Pharmacy and Dentistry are in Chicago.

The general University library, including the Agricultural Experiment Station library, contains 50,370 volumes and 6,000 pamphlets. The reading room contains 581 periodicals. The library of the State Laboratory of Natural History contains 4,300 volumes and 10,675 pamphlets. The Library of the College of Law contains the Federal and the State Reports, the leading text-books, and a line of leading periodicals. The department of education has made a special collection of about 1,500 books and 3,000 pam-

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phlets, which are kept in the rooms of the department in University Hall. This collection contains a very good assortment of modern text-books, and copies of the courses of study of nearly all the large city school systems.

The libraries of the College of Medicine and of the Schools of Pharmacy and Dentistry are described further on in the catalog, in connection with these institutions.

The reading room and the libraries at the University in Urbana are open daily, except Sunday, from 8 a. m. until 5 p. m., and from 6:30 p. m. until 9 p. m. on Mondays, Tuesdays, Wednesdays, and Thursdays.

The Public Library of the City of Champaign has recently become the possessor of the valuable library of western history collected by the late Edward G. Mason, Esq., President of the Chicago Historical Society. The collection is thus made accessible to University students.

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ADMISSION

Applicants for admission to the freshman class must be at least sixteen years of age.

Entrance may be made at any time, provided the candidate is competent to take up the work of the classes then in progress; but it is better to begin upon the first collegiate day in September.

Admission to the freshman class of the University may be obtained in one of three ways: (a) by certificate from a fully accredited high school; (b) by examination; (c) by transfer of credits from some other college or university.

ADMISSION BY CERTIFICATE FROM ACCREDITED HIGH SCHOOLS

The University employs a high school visitor, whose business is to inspect the high schools of the state. The University bears the expense of such inspection, but does not send the visitor to any school not already accredited until a request is made for such visit, together with a report on the work of the school which shows that its course of study is such as to merit the attention of the University. After inspecting a school the visitor reports upon it to the Council of Administration of the University, and upon approval the school is added to the list of accredited schools. Students coming to the University from an accredited school are excused from entrance examinations in those subjects which they have pursued there satisfactorily and which are accepted for admission to the University. The University accredits all work which is sufficiently well done. The schools in the list below are therefore not all accredited for the same amount of work, nor for the same subjects.

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In all subjects required for admission to the University, other than those for which his school is accredited, the candidate for admission must pass an examination or take the work in the Preparatory School of the University.

Candidates for admission from accredited schools must file with the Registrar, upon entrance, a certificate of graduation and a certified list of the preparatory studies for which they received credit in the high school. Blanks for these certificates must be obtained from the Registrar in advance, and it is better to forward them to him for approval before registration days.

LIST OF ACCREDITED SCHOOLS

School	Superintendent	Principal
Aledo	James C. Burns	Fred N. Taylor
Alton	R. A. Haight	J. E. Turner
Amboy	F. W. Dunlap	Faith Bardwell
Anna	Anson L. Bliss	W. P. Miller
Arcola	H. T. Willson	Anna E. Rogers
Atlanta	Anthony Middleton	Emelia Hochstein
Augusta	S. Douglas Faris	John A. Mead
Aurora (East)	C. M. Bardwell	W. F. Geiger
Aurora (West)	A. V. Greenman	Katherine Reynolds
Beardstown	H. J. Jokisch	Joseph Hutton
Belleville	H. D. Updike	H. W. Brua
Belvidere (North)	A. J. Snyder	Flora Fellows
Belvidere (South)	Montgomery Moore	C. H. LeVitt
Bement	Arthur Verner	George Thompson
Biggsville	(Township High School)	J. A. Strong
Bloomington	J. K. Stableton	Edwin L. Boyer
Blue Island	(Township High School)	J. E. Lemon
Burlington, Ia.	Francis M. Fultz	Maurice Ricker
Bushnell	William H.H. Miller	Flora Culp
Cairo	Taylor C. Clendenen	John Snyder
Cambridge	J. W. Cradler	Anna Gimmell
Camp Point	W. W. Wert	Effie Tull
Canton	C. S. Aldrich	C. S. Aldrich
Carlinville	J. E. Wooters	Anna Horine
Carlyle	E. E. VanCleve	John W. Fisher
Carrollton	E. A. Thornhill	E. A. Thornhill
Carthage	W. B. Larrick	Nora M. Simmons
Casey	J. D. McMeen	R. A. White
Centralia	J. L. Hughes	S. H. Bohn
Champaign	Joseph Carter	Lottie Switzer
Charleston	W. J. Sutherland	William Wallis

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SCHOOL	SUPERINTENDENT	PRINCIPAL
Chicago—		
Austin	E. G. Cooley	Geo. H. Rockwood
Calumet	"	Avon S. Hall
Englewood	"	James E. Armstrong
English High and Manual Training	"	Albert R. Robinson
Hyde Park	"	Charles W. French
Jefferson	"	Charles A. Cook
Lake	"	Edward T. Stearns
Lake View	"	Benjamin F. Buck
Marshall	"	Louis J. Block
Medill	"	Edward C. Rosseter
Northwest Division	"	Franklin P. Fisk
South Chicago	"	Charles I. Parker
South Division	"	Spencer R. Smith
Waller	"	Oliver S. Westcott
West Division	"	George N. Clayberg
Chicago Heights	(Township High School)	F. W. Schacht
Chicago Manual Training	H.H.Belfield, Director	
Chillicothe	H. M. Anderson	Kate Scarry
Chrisman	J. C. Arnold	M. L. Mohler
Clinton	E. B. Bentley	Jennie N. Good
Clinton, Ia.	O. P. Bostwick	J. S. McGowan
Clyde	(Township High School)	H. V. Church
Colfax	F. C. Prowdley	Mary Hotsenpeller
Covington, Ind.	W. P. Hart	A. M. Wilson
Danville	L. H. Griffith	B. A. Sweet
Davenport, Ia.	J. B. Young	W. D. Wells
Decatur	E. A. Gastman	Sherid'n W. Ehrman
De Kalb	Newell D. Gilbert	Charles E. Skinner
Delavan	E. A. Cross	F. Von Eschen
Dixon (North)	H. V. Baldwin	Lydia Williamson
Dixon (South)	Charles W. Groves	B. F. Bullard
Downer's Grove	O. M. Searles	Mable E. Messner
Dubuque, Ia.	F. T. Oldt	J. S. Gochenauer
Dundee	Julia M. Gay	Vina L. Moore
DuQuoin	C. W. Houk	A. F. Ashbacker
Dwight	G. W. Horton	Leila R. Britt
East St. Louis	John Richeson	C. L. Manners
Edwardsville	Chas. W. Parkinson	J. W. Park
Effingham	J. D. Foucht	M. S. Vance
Elgin	M. A. Whitney	E. J. Kelsey
Elgin Academy		Geo. Newton Sleight
Elmhurst Evangelical	Proseminar D. Irion, President	
Elmwood	J. M. Martin	Lena M. Johnson
Evanston	(Township High School)	Henry L. Boltwood
Evansville, Ind.	W. A. Hester	Robert Spear
Farmer City	C. C. Covey	James Raibourn
Farmington	H. L. Roberts	Gertrude Neal
Flora	J. M. Stephens	Genevieve Jepson

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School	Superintendent	Principal
Freeport	R. S. Page	S. E. Raines
Fulton	J. D. Rishell	Stella M. Case
Galena	J. W. Cupples	J. W. Cupples
Galesburg	W. L. Steele	F. D. Thompson
Galva	Fred U. White	Hedwig Marie Maul
Geneseo	A. W. Hussey	Henry N. Frost
Gibson City	A. P. Johnson	H. M. Rudolph
Gilman	L. W. Haviland	Henrietta Kortkamp
Girard	F. E. Kennedy	Chas. B. Campbell
Grand Prairie Seminary (Onarga)		Frank G. Barnes
Greenfield	H. G. Russell	Helen G. Russell
Greenville	W. Duff Piercy	Charles F. Ford
Griggsville	W. H. D. Meier	Florence E. Pitts
Harvard	John S. Brazier	Orma F. Butler
Harvey	(Township High School)	J. E. Cable
Havana	Jasper R. Sparks	Mrs Sara E. Pierce
Henry	William Calhoun	Eva D. Beattie
Highland Park	(Township High School)	W. A. Wilson
Hillsboro	Samuel T. Robinson	William S. Harris
Hinsdale	J. M. Frost	Mary McNair
Hoopeston	S. A. D. Harry	Chas. F. Briscoe
Jacksonville	J. W. Henninger	H. S. Weston
Jerseyville	J. Pike	Edward B. Shafer
Joliet	(Township High School)	J. Stanley Brown
Kankakee	Franklin N. Tracy	Isaac E. Neff
Keokuk	O. W. Weyer	A. A. Reed
Kewanee	A. C. Butler	T. M. Birney
Lacon	D. B. Burrows	Della Murch
La Grange	(Township High School)	E. R. Cole
Lanark	C. O. DuBois	Annie Montgomery
La Salle	(Township High School)	Chas. A. Farnam
Le Roy	S. K. McDowell	Flora M. Grady
Lewistown	B. C. Moore	Mary E. Tate
Lexington	R. G. Jones	Lillian Barton
Lincoln	B. E. Nelson	Clyde Capron
Litchfield	R. C. Shellenbarger	C. E. Richmond
Lockport	J. E. Hooten	Paul E. Prutsman
McLeansboro	F. D. McKittrick	Persis Pryse
Macomb	R. C. Rennick	Minnie C. Johnson
Marengo	G. N. Snapp	Lillian Wherry
Marion	J. W. Asbury	Charles Ryburn
Marseilles	F. M. Kline	J. W. Maybee
Marshall	L. A. Wallace	Fannie Andrews
Mattoon	J. J. Wilkinson	Will A. Marlow
Mendota (East)	W. R. Foster	Evang'ine Chowning
Mendota (West)	George C. Griswold	Myra J. Howes
Metropolis	Edward Longbons	Clarence Bonnel
Minonk	F. L. Mills	Helen M. Clark
Moline	W. J. Cox	W. H. Heil
Monmouth	B. F. Armitage	E. Sturtevant

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School	Superintendent	Principal
Monticello	J. T. Gale	Harry Pierson
Morris	P. K. Cross	Matilda Castro
Morrison	M. M. Warner	Ella M. Ellsworth
Mount Carmel	W. S. Booth	Kate Marsh
Mount Carroll	Ada M. Griggs	Mrs. L. H. Deming
Mount Morris College (Preparatory)	J.G. Royer, President	
Mount Pulaski	G. B. Coffman	Joseph H. Gordon
Mount Vernon	H. J. Alvis	J. W. Barrow
Murphysboro	(Township High School)	Ellis H. Rogers
Nashville	Albert G. Owen	Chas. E. Freed
Newton	E. B. Brooks	Electa Ransom
Nokomis	Harry C. Miller	Charlotte Holmes
Normal	E. A. Fritter	Chas. A. Rice
North Park College (Chicago),	D.Nyvall, President	
Oak Park	(Township High School)	John Calvin Hanna
Odell	L. T. Earnheart	Catherine Kinnison
Olney	Geo. D. Wham	John P. Gilbert
Onarga	Richard E. Selby	Ida L. Fleischer
Oregon	E. S. Hady	Adalaide Steel
Ottawa	(Township High School)	J. O. Leslie
Pana	Lleewellyn S. Hany	H. C. McCarrel
Paris	H. W. Monical	A. F. Lyle
Paxton	O. J. Bainum	J. E. McKown
Pecatonica	Geo. A. Collins	Bertha A. Lambert
Pekin	O. A. Shotts	Asa Hiett
Peoria	N. C. Dougherty	Alf. W. Beasley
Pittsfield	W. R. Hatfield	A. E. Sneeden
Plano	J. R. Freebern	Grace Garnett
Polo	S. Manson Abbott	Mabel B. Dempster
Pontiac	(Township High School)	J. E. Bangs
Princeton	(Township High School)	D. O. Barto
Quincy	F. G. Ertel	D. B. Rawlins
Riverside	A. F. Ames	Edward L. Hardy
Robinson	Marion N. Beeman	O. R. Hedden
Rochelle	C. F. Philbrook	Jessie M. Shepherd
Rockford	P. R. Walker	B. D. Parker
Rock Island	H. B. Hayden	J. F. Darby
Rossville	I. A. Smothers	C. N. Boord
Rushville	H. H. Edmunds	H. B. Fisher
St. Charles	C. E. Mann	Gertrude Webster
St. Louis, Mo.	F. Louis Soldan	W. J. S. Bryan
Salem	S. J. Curlee	Laura E. Myers
Sandwich	W. W. Woodbury	Lillian A. Purkhiser
Savanna	W. S. Wallace	O. F. Smith
Sheffield	A. H. Gilmer	F. O. McFarland
Shelbyville	G. P. Randall	R. J. Roberts
Southern Collegiate Institute (Albion)		Frank B. Hines
Sparta	S. B. Hood	L. J. Sexton
Springfield	J. H. Collins	L. M. Castle
Sterling	(Township High School)	O. L. Miller

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School	Superintendent	Principal
Streator	(Township High School)	S. B. Hursh
Sullivan	Hugh A. Bone	Oscar B. Lowe
Sycamore	John N. Adee	Sarah Robinson
Taylorville	(Township High School)	William E. Andrews
Terre Haute, Ind.	William Wiley	Chas. Meek
Toulon Academy		Lewis A. Morrow
Tuscola	G. F. Arps	W. D. Higdon
Urbana	J. W. Hays	Clifford Willis
Vandalia	H. L. Smith	W. H. Pyle
Vermilion Academy	(Vermilion Grove)	Geo. H. Moore
Vienna	M. N. McCartney	Lulu Whittenberg
Virden	Theodore H. Haney	Martha W. Davis
Warren	B. F. Baker	Olivette M. Buser
Warren Academy		H. B. Humphrey
Washington	J. W. Hesler	Abby L. Ross
Watseka	E. J. Blake	Mayme Goodale
Waukegan	Miriam Besley	W. J. Stebbins
Waverly	S. S. Simpson	F. S. Dennis
Wenona	Ida M. Wright	Lucius K. Fuller
Western Military Academy	(Upper Alton)	A. M. Jackson
Wheaton	J. B. Russell	Ella M. Gregg
Whitehall	Chas. E. Joiner	Laura M. Truscott
Wilmington	Sam Houston	Bessie L. Houston
Winchester	H. D. Willard	Anna M. Hubbard
Woodstock	C. W. Hart	Grace Francisco
Wyoming	J. B. Wallace	Rae C. Baldwin
Yorkville	Oliver R. Zoll	Lilabel A. Lemon

ADMISSION BY EXAMINATION

Examinations of candidates for admission to the University are held at the University in September (see program, p. 62-3). Each candidate must be in attendance during the whole period of the examinations.

The scholarship examinations,* held each year on the first Saturday in June, in the several counties of the state, afford an opportunity to pass a part of the entrance examinations before coming to the University.

The subjects upon which the entrance examinations are held are described below.

When text-books are named it is merely to aid in explaining the requirements. Equivalents are accepted.

In all cases 36 credits are required, the term credit mean-

* See State Scholarships, p. 288.

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ing the amount of work represented by the continuous pursuit of one subject, with daily recitations, through one of the three terms of the high school year; or, in other words, the work of sixty recitation periods of forty minutes each, or the equivalent in laboratory or other practice. Of these 36 credits, 28 must be obtained by all candidates in the subjects, and according to the valuation stated in the prescribed list given below. The remainder of the 36 may be made up by offerings in any of the subjects in the elective list given below, with the following restrictions and provisions:

1. No offering will be accepted in any one of these elective subjects unless at least equal in quantity to the minimum specified in the table. For example: Astronomy is listed for from 1 to 1½ credits. Nothing less than one term's work, that is, one credit, will be accepted, therefore, in that subject.

2. Those who wish to enter upon the courses leading to the degree of bachelor of arts must offer at least three credits in some one foreign language, chosen from among the electives, in addition to the language chosen from among the prescribed subjects in the first list. The language from the elective list may or may not be the same as that offered in the prescribed list. Those who wish to pursue the study of Latin in the University must, however, offer nine credits in Latin.

3. Those who wish to enter upon the courses leading to the degree of bachelor of science, in any line of study except agriculture, must offer solid and spherical geometry among their electives.

4. For entrance upon the agricultural courses leading to the degree of bachelor of science, *any* six credits from the elective list will be accepted instead of the six credits in foreign language; but at least two years of foreign language study in the University must be taken by those who make this option.

The amount of work in each subject which, in the judgment of the University authorities, corresponds to the mini-

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mum number of credits assigned is shown by the description of subjects below:

SUBJECTS ACCEPTED FOR ADMISSION, WITH CREDITS

Prescribed

Algebra	4 credits
English Composition	3 credits
English Literature	6 credits
French, or German, or Greek, or Latin*	6 credits
Plane Geometry	3 credits
History	3 credits
Physical or Biological Science	3 credits

Elective

Astronomy	1	to 1½	credits
Botany	1½	to 3	credits
Chemistry	2	to 3	credits
Civics	1	to 3	credits
Drawing	1	to 3	credits
French	3	to 9	credits
Geology	1½	to 3	credits
Geometry, Solid and Spherical		1	credit
German	3	to 9	credits
Greek	3	to 7	credits
History		3	credits
Latin	3	to 12	credits
Manual Training	1	to 2	credits
Physics		3	credits
Physiography	1½	to 3	credits
Physiology	1	to 3	credits
Zoölogy	1½	to 3	credits

CHANGES IN REQUIREMENTS FOR ADMISSION

On and after September, 1903, forty high school credits will be required for admission, according to the schedule given below; and on and after September, 1905, forty-two high school credits will be required. Of the required credits, eighteen must be obtained by all candidates in the subjects, and according to the valuation, stated in the prescribed

* But see paragraph 4, page 54.

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list given below. Besides these eighteen credits, candidates must offer additional credits, as follows:

1. Those who wish to enter upon courses leading to the degree of bachelor of arts in *Literature and Arts,* must offer three credits in history and nine credits in foreign language. At least six of the language credits must be obtained in one language. The candidate must then make up the remainder of the required credits by offerings from the elective list.

2. Those who wish to enter upon courses leading to the degree of bachelor of arts *in science,* or of bachelor of science in *science, engineering,* or *agriculture,* must offer in addition to the eighteen credits prescribed for all candidates, six credits in physical and biological science. They must then make up the remainder of the necessary credits by offerings from the elective list.

Those who wish to enter the course leading to the degree of bachelor of laws must offer, in addition to the eighteen credits prescribed for all candidates, three credits in English and American History and any subjects chosen from the elective list sufficient to make up the number of credits required for entrance.

After the dates above mentioned the *prescribed* list will, therefore, stand as follows:

English composition, 3 credits. English literature, 6 credits. Mathematics—Algebra, 4 credits; Geometry, plane, solid and spherical,* 5 credits.

The elective list will remain as hitherto (page 55) except that manual training will be omitted, and that history may be offered for from three to nine credits, and German for from three to twelve credits.

DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations

* Candidates for Colleges of Literature and Arts, Science, Agriculture, and Law may offer in lieu of solid and spherical geometry three additional credits in history or foreign language study.

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and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. ASTRONOMY.—To obtain a single credit for entrance in astronomy, the student must pass an examination covering as much text-book work as is contained in any good text. For 1½ credits, the entrance requirement implies, in addition to the above, some degree of practical familiarity with the geography of the heavens, with the various celestial motions, and with the positions of some of the more conspicuous naked-eye heavenly bodies.

3. BOTANY.—A familiar acquaintance is required with the general structure of plants, and of the principal organs and their functions, derived to a considerable extent from a study of the objects; also a general knowledge of the main groups of plants, and the ability to classify and name the more common species. Laboratory note-books and herbarium collections must be presented.

4. CHEMISTRY.—The instruction must include both text-book and laboratory work. The work should be so arranged that at least one-half of the time shall be given to the laboratory. The course, as it is given in the best high schools in two terms or three terms, respectively, will satisfy the requirements of the University for the two credits or three credits for admission. The laboratory notes, bearing the teacher's indorsement, must be presented in evidence of the actual laboratory work accomplished. Candidates for admission may be required to demonstrate their ability by laboratory tests.

5. CIVICS.—Such amount of study on the United States constitution, its history and interpretation, as is indicated by any of the usual high school text-books on civil government, is regarded as sufficient for one term. The work may advantageously be combined with the elements of political economy, or, better, the industrial history of the country.

6. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each to test his ability to use the English language.

7. DRAWING.—Free-hand or mathematical drawing, or both. Drawing-books or plates must be submitted. The number of credits allowed depends on the quantity and quality of the work submitted.

8. ENGLISH LITERATURE.—(a) Each candidate is expected to

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have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next three years are as follows:

1902.—George Eliot's Silas Marner; Pope's Iliad, Books I., VI., XXII., and XXIV.; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Cooper's Last of the Mohicans; Tennyson's Princess; Shakespere's Merchant of Venice; Scott's Ivanhoe.

1903.—The Sir Roger de Coverley Papers; Carlyle's Essay on Burns; Coleridge's Ancient Mariner; George Eliot's Silas Marner; Goldsmith's Vicar of Wakefield; Lowell's Vision of Sir Launfal; Scott's Ivanhoe; Shakspere's Merchant of Venice; Shakspere's Julius Cæsar; Tennyson's Princess.

1904.—The same as 1903.

(b) In addition to the above the candidate will be required to present a careful study of the history of either English or American Literature.

(c) The candidate will be examined on the form and substance of one or more books, in addition to those named under (a). For 1902, 1903 and 1904 the books will be selected from the list below. The examination will be of such a character as to require a minute and thorough study of each of the works named, in order to pass it successfully. The list is:

Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

Two years of high school work, with five recitations a week, are necessary for the above preparation.

9. FRENCH.—*One year's work.*—The candidate must have a thorough knowledge of elementary grammar and the irregular verbs; must be able to pronounce correctly, and to translate simple spoken French phrases. He must have read some 300 pages of easy prose, including one modern comedy, and must be able to translate ordinary French prose at sight.

Two years' work.—In addition to the above, the candidate must show proficiency in advanced grammar, the essentials of syntax, and elementary composition. The reading of not less than 400 pages of standard authors, including two plays of Molière, is required, and the memorizing of not less than six fables or anecdotes.

Three years' work.—In addition to what has already been

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described, the candidate must have had further work in composition, and must have memorized not less than six poems or anecdotes. He must further have read not less than 500 pages of standard authors, including Molière, La Fontaine, and Hugo. Some acquaintance with modern lyrics is necessary.

10. GEOLOGY.—Familiarity with the matter found in Scott's Introduction to Geology, or a real equivalent. The student must be able to recognize well-marked types of crystalline and fragmental rocks, and to explain the origin of the topography of the region in which he lives. Additional laboratory and field work will be given such credit as it merits.

11. GEOMETRY.—(a) *Plane Geometry,* which must include a thorough knowledge of the fundamental definitions and axioms of the Euclidian geometry, together with the propositions relating to lines, circles, theory of proportion and its application to similar polygons, and the special properties of regular polygons and of circles. Special emphasis is placed upon the ability to use these propositions in the solution of original numerical exercises and of supplementary theorems.

(b) *Solid and Spherical Geometry,* covering the propositions relating to lines and planes in space, polyhedrons, cylinders, cones, and spheres, with their applications to the solution of original exercises.

12. GERMAN.—*One year's work.*—Elementary grammar, especially declension of articles and ordinary nouns and pronouns, use of the strong and the weak adjective, the two conjugations of verbs, with the principal parts and meanings of all the strong verbs, separable and inseparable prefixes, the use of common prepositions, the inverted and transposed sentence order. Practice in writing German sentences should accompany this work throughout the course, but the German script is not insisted upon. Besides the work in grammar, the student should read not less than 150 pages of easy narrative, or descriptive prose, giving careful attention to its translation into good English.

Two years' work.—In addition to the work outlined under the one year's requirement, the pupil should know the syntax of cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and of participial constructions. The translation into German of about thirty-five pages of narrative prose should insure ready application of grammatical principles. As an additional reading requirement, from 250 to 300 pages, including

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one of Schiller's historical dramas, and about thirty pages of German lyrics, should be translated. Constant practice in reading German should secure an accurate pronunciation and a feeling of the rhythm and rhetorical form of the works studied.

Three years' work.—The third year's study should aim to secure an easy reading knowledge of the language. Accurate and idiomatic translations into English, constant practice in sight translation and in writing from dictation should be insisted upon. Standard prose of the grade represented by Heine, Freytag, or Dahn, not less than 100 pages, should be read, together with selections from classic poetry. Lessing's Minna von Barnhelm and Goethe's Egmont or Iphigenie auf Tauris are especially recommended. Additional work in prose composition, or in the writing of paraphrases of the texts read, should insure the ability to write simple German.

13. GREEK.—To obtain three credits, the exercises in any of the beginning books, and one book of the Anabasis, or its equivalent, must be offered. For six credits, two books of the Anabasis and three of Homer, or their equivalents, additional to the above, must be presented, together with an amount of Greek prose composition equal to one exercise a week for one year.

14. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The History of Greece and Rome. The statement of requirements in each subject implies the use of a substantial text-book, together with some elementary training in the use of reference books. The one-year course in General History will, for the present, be counted for entrance credit, but is not recommended. If but one year can be given to History, it is recommended that that year be devoted to the History of England and of the United States. Three additional credits may be given for a second year of more advanced work in any one of the three subjects named above which was not offered to satisfy the requirements of the first year's work. When two years can be given to History, it is recommended that the subjects taken be the History of Greece and Rome, followed by the History of England and of the United States.

15. LATIN.—*First year's work.*—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories.

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Second year's work.—Four books of Cæsar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

Third year's work.—Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

Fourth year's work.—The scansion of hexameter verse, six books of Vergil, with history and mythology.

16. MANUAL TRAINING.—Experience in the use of wood-working tools will be required. Forge, foundry, or machine work may be substituted for wood work. The number of credits allowed will depend upon the time spent upon the subjects and the technical knowledge obtained.

17. PHYSICAL OR BIOLOGICAL SCIENCE.—For this there may be offered any one of the following subjects or combination of subjects: Physics, one year; chemistry, one year; botany and zoölogy, each a half year.

The subjects must be taught in part by laboratory methods and the pupil's notebooks must be submitted. Other evidences of work done, as illustrative drawings, collections of specimens, etc., should be presented. Examinations cover the subject-matter as presented in text-books in most common use in high schools. See also the descriptions given under the several subjects.

18. PHYSICS.—One year's high school work covering the elements of physical science as presented in the best of the current high school text-books of physics. Laboratory practice in elementary quantitative experiments should accompany the text-book work. The candidate's laboratory note-book will be considered as part of the examination.

19. PHYSIOGRAPHY.—The amount and character of the work required for the minimum credit may be seen by referring to Mill's Realm of Nature, or Davis's Physical Geography. The work of the text-book should be accompanied by such an amount of field work as will make the student thoroughly familiar with the characteristics, origin, and relationships of every topographical detail occurring in his own neighborhood.

For additional credits, the principles of climatology, ability to read physical and contour maps, interpretation of weather maps, and forecasting of weather, etc., will be considered.

20. PHYSIOLOGY.—For one credit are required the anatomy, histology, and physiology of the human body and the essentials of

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hygiene, taught with the aid of charts and models to the extent given in Martin's Human Body (Briefer Course). For more than one credit, the course must have included practical laboratory work on the part of the student. The number of credits, beyond one, will be determined in each case according to the quantity and quality of the work.

21. ZOÖLOGY.—The instruction must include laboratory work equivalent to four periods a week for a half year besides the time required for text-book and recitation work. When the examination is taken, note-books and drawings must be presented which shall show the character of work done and the types of animals studied. The drawings are to be made from the objects themselves and not copied from illustrations, and the notes are to be a record of the student's own observation on the animals examined. The amount of equipment and character of surroundings must, of course, determine the nature of the work done and the kind of animals studied, but in any case the student should have at least a fairly accurate knowledge of the external anatomy of each of eight or ten animals distributed among several of the larger divisions of the animal kingdom, and should know something of their life histories and of their more obvious adaptations to environment. It is recommended that especial attention be given to such facts as can be gained from a careful study of the living animal. The names of the largest divisions of the animal kingdom with their most important distinguishing characters and illustrative examples, selected when practical from familiar forms, ought also to be known.

PROGRAM OF EXAMINATIONS, SEPTEMBER 10-13, 1902

All persons who wish to enter the University in September, 1902, except those holding certificates of graduation from accredited schools and scholarship certificates, and those for whom a transfer of all entrance credits from some other college or university has already been approved, must present themselves at the Registrar's office, Library Building, at 9 o'clock a. m., Wednesday, September 10th. At that time applications for admission will be received, and applicants will be given all necessary directions as to examinations.

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The program of examinations is as follows:

Chemistry, 2 or 3 credits	Wednesday	9:50 a. m.
Geology, 2 or 3 credits	Wednesday	9:50 a. m.
Astronomy, 1 or 1½ credits	Wednesday	11:10 a. m.
History, 3 or 6 credits	Wednesday	12:50 p. m.
Physiography, 1½ or 3 credits	Wednesday	3:20 p. m.
English Literature, 6 credits	Thursday	7:50 a. m.
English composition, 3 credits	Thursday	10:20 a. m.
Latin, 3 or 6 credits	Thursday	12:50 p. m.
Physics, 3 credits	Thursday	3:50 p. m.
Algebra, 4 credits	Friday	7:50 a. m.
Civics, 1 to 3 credits	Friday	10:20 a. m.
Geometry, Plane, 3 credits	Friday	12:50 p. m.
Geometry, Solid and Spherical, 1 credit	Friday	2:35 p. m.
Physiology, 1 to 3 credits	Friday	3:20 p. m.
German, 3 or 6 credits	Saturday	7:50 a. m.
French, 3 or 6 credits	Saturday	7:50 a. m.
German, 7 to 9 credits	Saturday	10:20 a. m.
French, 7 to 9 credits	Saturday	10:20 a. m.
Latin, 7 to 12 credits	Saturday	12:50 p. m.
Botany, 1½ to 3 credits	Saturday	12:50 p. m.
Zoölogy, 1½ to 3 credits	Saturday	3:20 p. m.

The time for examinations in Free Hand Drawing and in Manual Training will be arranged with candidates.

ADMISSION BY TRANSFER FROM OTHER COLLEGES AND UNIVERSITIES

A person who has entered another college or university of recognized standing will be admitted to this University upon presenting a certificate of honorable dismissal from the institution from which he comes and an official statement of the subjects upon which he was admitted to such institution, provided it appears that the subjects are those required here for admission by examination, or real equivalents. Candidates, to enter the University in this way, should submit such papers to the Registrar before the time of entrance, so that all doubtful points may be cleared up in advance.

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ADMISSION AS SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, may be admitted to classes, after satisfying the President, and the professor in charge of the department in which such classes are taught, that they possess the requisite information and ability to pursue profitably, as special students, the chosen subjects. Such students are not matriculated; they pay a tuition fee of seven dollars and a half a semester, in addition to the regular incidental fee of twelve dollars.

After successfully completing thirty semester hours of university work, a special student may receive such credits towards matriculation on account of practical experience in the line of his course, as the head of the department and the dean of the college may recommend, and the President of the University may approve.

In the College of Agriculture special students may be received at sixteen years of age subject to the same conditions as other special students, except that they may hold scholarships in agriculture (p. 290).

ADMISSION TO ADVANCED STANDING

After satisfying the entrance requirements for admission to the University, in some of the ways described, and after matriculating, the applicant for advanced standing may secure such standing either by examination or by transfer of credits from some other college or university.

1. *By Examination.*—Candidates for advanced standing, not from other colleges or universities, may secure such standing on examination. In the case of freshman students seeking advanced standing on the basis of their preparatory work, such standing shall be granted after satisfactory examination only, unless the applicants are from fully accredited schools. In that case a transfer of credits may be made as provided below.

2. *By Transfer of Credits.*—Credits from other colleges or universities may be accepted by the Faculty for advanced

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standing; but at least one year's work in residence at the University is required of all candidates for a bachelor's degree.

In all cases a certificate of honorable dismissal is required, together with a certified record of work done in the institution from which the applicant comes. These should be presented for approval some time before the student enters for work.

Upon approval of the faculty freshmen may receive credit for advanced work done in fully accredited high schools.

REGISTRATION

At the beginning of the first semester each student must present himself for registration within the time set for that purpose, before the formation of classes, and he must be present at the first exercise of each class he is to attend.

EXAMINATIONS

Examinations are held as often as in the judgment of the instructor the necessities of the work require. Examinations are also given at the close of each semester, on the work of the semester, in all subjects except those whose character renders it unnecessary or impracticable.

A record is kept of each student's standing.

SEMESTERS AND RECESS

The University year is divided into semesters, each covering eighteen weeks of instruction. There is a recess of two weeks at the Christmas holidays.

For dates of opening and closing, see Calendar, p. 5.

GRADUATION

In all cases credit for one hundred and thirty "semester hours" (see p. 169) is required for graduation. The candidate for a degree must complete all the subjects prescribed

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for graduation in his course, and when, in doing this, he does not gain the necessary credit of one hundred and thirty hours, he must make up the deficiency by electing other subjects.

The combinations of studies under which a student may graduate are too numerous to describe; they are given to some extent under the separate colleges and schools.

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ADMINISTRATION OF THE UNIVERSITY

GOVERNMENT

The government of the University is vested by the Trustees primarily in the President of the University, in the Senate, in the Council of Administration, and in the Deans.

The President is the executive head of the University.

The Dean of the Graduate School has general oversight of the instructional work of the University, and especial supervision of the graduate school. By order of the Board of Trustees he also fills the office of Vice-President.

The Dean of each college is responsible for the enforcement of all University regulations within his college.

The Council of Administration is composed of the President, the Dean of the Graduate School, the Dean of Undergraduates, the Dean of the Woman's Department and the Deans of the separate colleges. It constitutes an advisory board to the President, *and has exclusive jurisdiction over all matters of discipline.*

The Council does not exercise general legislative functions, but when any matter arises which has not been provided for by common usage or by rule of the Senate and which cannot be conveniently laid over till the next meeting of the Senate, the Council may act upon the same according to its discretion.

The determination of the general internal policy of the University is in charge of the Senate.

The faculties of the different colleges and schools of the University are composed of the members of the corps of instruction of these colleges and schools, and have jurisdic-

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tion over all matters which pertain exclusively to these organizations, subject always to higher University authority.

ORGANIZATION

For the purpose of more efficient administration, the University is divided into several colleges and schools. This division does not imply that the colleges and schools are educationally separate. They are interdependent, and together form a unit. In addition to the courses mentioned as given in each college and school, instruction in military science and physical training is provided. The organization is as follows:

I. The College of Literature and Arts.
II. The College of Engineering.
III. The College of Science.
IV. The College of Agriculture.
V. The Graduate School.
VI. The School of Library Science.
VII. The School of Music.
VIII. The College of Law.
IX. The College of Medicine.
X. The School of Pharmacy.
XI. The School of Dentistry.

THE COLLEGE OF LITERATURE AND ARTS

The College of Literature and Arts offers—

1. General courses, offering a wide range of electives.

2. Specialized courses, or courses under the group system, including—

a. The Classical Group.
b. The English Group.
c. The German and Romanic Language Group.
d. The Latin and Modern Language Group.
e. The Philosophical Group, including Education, Mathematics, Philosophy and Psychology.
f. The Political Science Group, including History, Economics and Government.

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THE COLLEGE OF ENGINEERING

The College of Engineering offers courses—

1. In Architecture.
2. In Architectural Engineering.
3. In Civil Engineering.
4. In Electrical Engineering.
5. In Mechanical Engineering.
6. In Municipal and Sanitary Engineering.
7. In Railway Engineering.

THE COLLEGE OF SCIENCE

The College of Science offers courses in—

1. General Science.
2. Chemistry.
3. Education.
4. Household Science.
5. Mathematics.
6. Physics.
7. Studies Preliminary to Medicine.

COLLEGE OF AGRICULTURE

The College of Agriculture offers courses in—

1. Agronomy.
2. Animal Husbandry.
3. Dairy Husbandry.
4. Horticulture.
6. Veterinary Science.

THE GRADUATE SCHOOL

The Graduate School offers courses in—

1. Agriculture.
2. Engineering.
3. Literature, Philosophy, and the Arts.
4. The Sciences.

The departments in which courses of graduate study are given will be found under the "General Description of

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Courses" (p. 169), and the separate graduate courses offered are described in connection with the proper subjects in the list of courses which there follows.

THE SCHOOL OF LIBRARY SCIENCE

The School of Library Science, or the State Library School, offers a course of study, extending over four years, two of which are in some one of the colleges of the University, in preparation for the practice of the work of a librarian. The course leads to the degree of bachelor of library science.

THE SCHOOL OF MUSIC

The School of Music offers courses in vocal and instrumental music, leading to the degree of bachelor of music.

THE COLLEGE OF LAW

The College of Law offers a course of study leading to the degree of bachelor of laws.

THE COLLEGE OF MEDICINE

The College of Medicine offers a course of study leading to the degree of M.D.

THE SCHOOL OF PHARMACY

The School of Pharmacy offers a course in all branches necessary to a complete scientific and practical knowledge of pharmacy, including pharmacy, chemistry, materia medica, botany, physics, and physiology. The course leads to the degree of graduate in pharmacy.

THE SCHOOL OF DENTISTRY

The School of Dentistry offers a course leading to the degree of D.D.S.

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COLLEGE OF LITERATURE AND ARTS

AIMS AND SCOPE

The College of Literature and Arts includes those branches usually comprised in a department of philosophy and arts, with the exception of the natural sciences. The aim of the College is a double one: to furnish a liberal education, and to afford opportunity for specialization in art, literature, philosophy, history, and the political sciences. It is believed that this double purpose can be accomplished best by a judicious combination of prescribed and elective studies, which, while so directing the work of the student as to secure the desired mental training, will allow him a considerable range of choice in the selection both of his main line of work and of subjects auxiliary thereto.

In conformity with this general plan, it is provided that students may graduate either under a system offering a choice of a considerable number of subjects, or under one in which the principal part of the student's work is in a single line of study, or a group of related lines. The subjects which may be selected for this special study are listed as major electives on page 76. These two systems are named respectively the general course system, and the specialized course, or group, system.

The only degree given in this College is that of A.B.

THE GENERAL COURSE SYSTEM

Under the General Course System the student may select his studies from as wide a range of subjects as he pleases, restricted only by a certain minimum of prescribed work, and by certain requirements as to the time which must be

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spent upon each subject in order to secure a reasonable degree of concentration. The prescribed subjects are part of the work of the first two years. So far as possible, the work of the freshman year must be made up wholly of prescribed subjects, and the rest of the prescribed work, excepting science, must be done in the sophomore year. Within the limits of the prescribed work, moreover, the student is permitted a choice of lines of study. For example, while a year of science is prescribed for all students, any one of the sciences may be chosen.

After finishing the prescribed subjects, each student must elect a sufficient number of courses to yield him the necessary credits for graduation. At least two electives must be pursued, each for two years, so that the student shall secure twenty hours' credit in each. These two subjects are known as his majors. The word is applied in the general course system to any subjects primarily classed in the College of Literature and Arts, in which the student secures twenty hours' credit. The subjects are listed as major electives, on page 76. If the student pursues the study of any one of these subjects for less than two years, it is credited to him as a minor, as is also any subject not there listed, regardless of the time spent on it.

In the choice of his electives other than his majors, the student may take a minimum of work in each of a maximum number of subjects, or he may take a maximum amount of work in the minimum number of subjects necessary to fill up his time according to the rules of the University. The elective minor courses open to the students of the College include subjects offered in the other colleges and schools of the University. The sciences are not an integral part of the work of the College of Literature and Arts, but they are so important a part of a liberal education that every student of the College is earnestly urged to extend his study of them as far as may be. Certain courses in the College of Engineering, in the College of Agriculture, in the School of Library Science, and in

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the College of Law, may also be counted for credit in the College of Literature and Arts. These are more particularly mentioned under "minor electives," on page 77.

REQUIREMENTS FOR GRADUATION UNDER THE GENERAL COURSE SYSTEM

Credit for 130 hours (p. 169), including the prescribed military and physical training, is required for graduation under the general course system. Every student must take the prescribed subjects; in addition, he must select at least two subjects from the list of major electives, and he must then choose work sufficient to yield him the remainder of the required number of hours.

No credit is granted in any subject unless the student pursues it for the minimum time for which any course in the subject is offered. For example, if a student elects a course which yields two hours' credit for one semester,* he must stay in the class during the semester in order to get any credit at all. No credit is granted for less than the whole year's work in the beginning year of the study of any foreign language. After the first year credit may be obtained for the work of a single semester.

THE SPECIALIZED COURSE, OR GROUP, SYSTEM

A specialized, or group, course is one in which the student is required to pursue a single line of study for three consecutive years, in addition to doing the prescribed work and writing a thesis. At least twenty hours' work in the chosen subject must be done before the beginning of the senior year. No student may be enrolled in a specialized course without the permission of the head of the department in which he wishes to do his principal work. The subject in which the thirty hours' work is required is called the student's major, and must be chosen from the list of major electives (p. 76.)

As a rule, only those students who take a specialized

* See for example Civil Engineering 16, p. 202.

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course will be recommended from this College for fellowships, scholarships, and other university honors.

REQUIREMENTS FOR GRADUATION UNDER THE SPECIALIZED COURSE, OR GROUP, SYSTEM

Credit for 130 hours, including the prescribed military and physical training, together with an acceptable thesis, is required for graduation under the group system. Every student must take the prescribed subjects. Not later than the beginning of his junior year he must designate the group in which he wishes to be enrolled. He must at that time choose one subject in the group as his major, the study of which, alone or with the subjects designated as specifically preparatory to it, he must pursue during the remaining two years, and secure in it at least thirty hours' credit in all. He must then select, with the approval of the head of the department in which his major subject belongs, a sufficient number of other studies to yield him the necessary number of hours.

A student in a specialized course must also present an acceptable thesis. This thesis must be on a topic connected with his major study, and must present the results of investigation made during the last year of the student's course. The work of investigation must be the required work in the major subject, in whole or in part, during the student's senior year.

As in the general course system, no credit is given for parts of courses, and at least one full year's work must be done by those who begin a foreign language, in order to secure any credit therefor. The same work may not be credited both as major and minor.

The groups are as follows:

The *Classical Group*, including Greek and Latin as the major subjects. One of these languages must be taken for thirty, the other for twenty, hours.

The *English Group*, including the Scandinavian languages. Students in this group must take two years of French or German before the beginning of the junior year, or must be able to read one of these languages easily. Those

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who elect the course in language must have at least two years of German.

The *German and Romanic Language Group.* Either German or French may be taken as a major, but twenty hours' credit in the other must be secured. Besides the required work in English, all students must elect additional English sufficient to make a total of at least ten hours. Students of marked ability, who take French as a major, are advised to take the courses offered in Spanish or Italian.

The *Latin and Modern Language Group,* including Latin, German, and French. Twenty hours' credit must be obtained in the language chosen for a minor.

The *Philosophical Group,* including education, mathematics, philosophy, and psychology, as major subjects. In this group the second year of the student's work is devoted to studies specifically preparatory to the principal subject, which is itself taken up at the beginning of the third year.

Students in this group who make *philosophy* a major must, in the second year, make ten hours of credit from among these subjects: Anthropology, psychology, economics 17 (sociology), Greek 15.

Those who make *psychology* their major subject must, in their second year, make ten hours from among these subjects: economics 17; philosophy 2, 6, 8; physiology 4.

When *education* is the major, the work specifically preparatory is outlines of philosophy (philosophy 2, 3, 4), and elementary and educational psychology.

Those students who take *mathematics* as their major work must take the courses in mathematics numbered 1, 3, 6, 8a, 8b, 10, 11, 15, 16, 17, and may elect as many more as they choose. They must also make twenty hours' credit in either German or French.

The *Political Science Group,* including economics, history, and science of government. All students in this group must take the three elementary courses: history 1, economics 1a and 1b, and science of government 1; and must also secure five hours in physiography, and at least three hours in

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philosophy, selected from courses 1, 2, 3, and 4. They must also take at least one year's work in either French or German, before the beginning of the junior year, or must furnish satisfactory evidence of their ability to use at least one of the languages.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Advanced Algebra (Math. 1, 2); 2 or 3 hours.
English 1; 4 hours.
French 1, German 1 and 3, Greek 1, 2, or Latin 1; one year.
Geometry, Solid and Spherical; 3 hours.
History 1, or 11 and one semester of 2; 6 hours.
Logic (Philosophy 1a or 1b); 3 hours.
Military 1, 2; 5 hours.
Physical Training—
For men, 2 hours.
For women, 3 hours.
Natural Science; 8-10 hours.
*Rhetoric 1, 3; 10 hours.
Trigonometry (Math. 3, 4); 3 or 2 hours.

ELECTIVE

MAJOR ELECTIVES

Following are the subjects which may be elected as majors.† Minor work may be elected from those not chosen as majors.

Economics.
Education.
English.
French.
German.
Greek.
History.
Latin.
Mathematics.
Philosophy.
Psychology.
Rhetoric.
Science of Government.

* Students who secure an average semester grade of 85 per cent. in Rhetoric 1 are excused from Rhetoric 3.

† See pp. 72, 73.

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MINOR ELECTIVES

The necessary number of hours additional to those provided for in the prescribed subjects and the chosen major electives, may be secured from any of the subjects listed above as major electives, or from any other subjects offered in the College of Literature and Arts, or in the College of Science, the requirements for which the student can meet. Subjects offered in the College of Literature and Arts, but not included among the major electives, are Art and Design,‡ anthropology, Comparative Literature and Philology, Italian, Spanish, and Physical Training. § The following subjects from the offerings in other colleges and schools of the University may also be taken as minors:

Domestic Architecture (Arch. 28); History of Architecture (Arch. 27); Household Science, all courses; Law: Constitutional Law (Law 22); Elements of Jurisprudence (Law A); International Law (Law 23); Municipal Corporations (Law 24); Roman Law (Law 27); Library Science: Book-Making (Lib. Sci. 9); History of Libraries (Lib. Sci. 7); General Reference (Lib. Sci. 12); Music: History of Music (Mus. 1); Orchestra (Mus. 8); Choral Society (Mus. 8); Thremmatology.

COURSE OF INSTRUCTION

All the prescribed subjects except science *must be finished by the end of sophomore year.* The science may be deferred until junior year. The following statement gives the years and semesters in which the subjects occur:

FIRST YEAR

Fifteen to eighteen hours' work a week, exclusive of military and physical training, must be chosen each semester from among the following subjects: those in italics *must be* in the list chosen:

‡ Not more than twenty hours of Art and Design may be counted for the Arts' degree.

§ Not more than five hours of physical training, including the amount prescribed, may be counted for the Arts' degree.

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First Semester—

History: Mediæval and Modern European History (Hist. 1); 2 hours.

Language and Literature: English 1 or 2, 4 hours; French 1, or German 1, or Greek 1, or Latin 1, 4 hours; *Rhetoric* 1, 3 hours.

Mathematics: Advanced Algebra and Trigonometry (Math. 1 and 3, or 2 and 4); 5 hours.

Military: Drill (Mil. 2); 1 hour.

Natural Science: Astronomy 5; Botany 2; Chemistry 1; Entomology 1, 2, 4; Physiography 1; Zoölogy 10; 4 or 5 hours.

Physical Training—

For men—Physical Training 1, 3; 1 hour.

For women—Physical Training 7, 9; 2 hours.

Second Semester—

History: Mediæval and Modern European History (Hist. 1), 3 hours, continued; or English History (Hist. 11), 4 hours.

Language and Literature: English 1 or 2, 4 hours; French 1, or German 3, or Greek 2, or Latin 1, continued as begun in the first semester; 4 hours. *Rhetoric* 1, continued; 3 hours.

Mathematics: Solid and Spherical Geometry; 3 hours.

Military: Tactics and Drill (Mil. 1, 2); 2 hours.

Natural Science: Astronomy 4; Botany 1; Chemistry 1a, 2, 2a, 3a, or 3b; Entomology 1, 3, 4; Geology 3; Physics 2; Physiology 4; or Zoölogy 1; 4 or 5 hours.

Physical Training—

For men—Physical Training 1, 3; 1 hour.

For women—Physical Training 7; 1 hour.

SECOND YEAR

Fifteen to eighteen hours' work per week, exclusive of military and physical training, must be chosen each semester. This work *must include all of the prescribed subjects which were not taken in freshman year,* except science. Those who elected history 11 as part of the prescribed work must take one semester of history 2 this year. (See p. 76, and the classification under first year.) If the science is taken in this year zoölogy 11 may be elected, in addition to the science courses listed above.

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The following subjects must be taken:—

Logic: (Phil. 1a first semester, or Phil. 1b second semester); 3 hours.

Military: Drill (Mil. 2) both semesters; 2 hours.

*Rhetoric:** English Composition (Rhet. 3); first or second semester; 4 hours.

The remaining hours may be made up by the election of any subjects the requirements for which the student can meet.

THIRD AND FOURTH YEARS

The studies of these are all elective, except that the required science must be taken in the third year if it has not been taken before. Thremmatology may be taken in the third year as part of the science required.

LEGAL STUDY AND COLLEGE WORK

By a proper selection of his studies it is possible for a prospective law student to take both his degree in arts and his degree in law in six years. A student who intends to do this should announce his purpose not later than the beginning of his sophomore year, and is advised to enroll in the political science group, and elect the law subjects which are accepted towards the arts' degree. He should first do all the work prescribed for candidates for the degree of A.B. (see pp. 73, 74); he should then take studies sufficient to leave him not more than fifteen hours' credit to make in the senior year of his college course. The student during this year should enroll in the College of Law and take the first year's work there. Of this work ten hours, but no more, may be counted in the College of Literature and Arts as part of the fifteen hours remaining to be taken for the arts, degree. These ten hours must be in contracts (Law 1) and real property (Law 3).

Students are not permitted to take this law work for credit toward the arts' degree until their senior year.

* For students who did not get a grade of 85 in Rhetoric 1, both semesters.

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A fee of five dollars is charged for every law subject, except those named on page 239, taken by students who do not pay the regular law school fees.

SPECIAL COURSE PREPARATORY TO LAW

This course is suggested as a suitable one for students who do not intend to take the degree of A.B. before entering the College of Law. Prospective law students, who wish to get their arts' degree first, should arrange their work as suggested in the statement about "Legal Study and College Work." If a student can spend but two years in preliminary study he will do well to take the following course:

FIRST YEAR

1. English Economic History (Econ. 1b); Mediæval and Modern European History (Hist. 1); Political Institutions (Gov. 1); Jurisprudence (Law A.); Mathematics 2, 4; Rhetoric and Themes (Rhet. 1).

2. English Literature (Eng. 1 or 2); Mediæval and Modern European History (Hist. 1); Political Institutions (Gov. 1); Jurisprudence (Law A.); Rhetoric and Themes (Rhet. 1).

SECOND YEAR

1. Economics 1a; American History (Hist. 3); or English Constitutional History (Hist. 4); or Historical Introduction to Contemporary Politics (Hist. 2); Oral Discussions (Rhet. 5); Public Speaking (Rhet. 7b.)

2. Five hours in economics from these courses: Money and Banking (Econ. 3); Financial History of the United States (Econ. 4); Public Finance (Econ. 5); The Transportation Problem (Econ. 8); American History (Hist. 3); or English Constitutional History (Hist. 4); or Historical Introduction to Contemporary Politics (Hist. 2); Oral Discussions (Rhet. 5); Public Speaking (Rhet. 7b).

If a student can spend but one year in preliminary work he should select from the above course such subjects as he is prepared for.

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PREPARATION FOR TEACHING

Students who wish to prepare themselves for teaching are advised to enroll in the group (pp. 74-6) in which occur the special subjects they wish to teach. It is possible for a student so to combine the studies of the group he enters with electives in pedagogy and psychology as to give him both the necessary knowledge of his specialties and the desirable pedagogical preparation.

As a rule, students who arrange their courses of study with reference to teaching particular subjects will have the preference in recommendations to positions calling for teachers of those subjects.

DESCRIPTION OF DEPARTMENTS

ART AND DESIGN

It is the aim of the department of art and design to offer courses that will assist students in their University studies, cultivate their esthetic taste, and equip them for future art work.

The department has kept pace with the growth of the University, has broadened its courses of study and has increased the number of its instructors so that it now offers many courses in drawing, painting, modeling, and design, making it possible for any University student, without additional expense, to secure valuable instruction in art.

All the courses of the department are also open to special students of art. These students enjoy opportunities beyond the reach of students in the usual art school, since the work of other departments of the University is open to them without additional expense.

On account of the close connection of the department of art and design with the other departments of the University, students may specialize in the artistic sides of their chosen courses of study, and students wishing to become teachers of drawing or of manual training in the public schools may arrange courses to suit their individual needs.

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COMMERCE

Courses in commerce, business administration, and accounts will be offered next year. A special circular describing these courses will be issued in April.

ECONOMICS

The work in economics for undergraduates is so arranged that the student can take a continuous course for from one to three years. The courses are designed to cover as large a field as possible in the literature of the subject, and to present all disputed matters from different points of view.

Minor courses in sociology are provided for in the department.

EDUCATION

The department of education aims to meet the needs of the prospective secondary school teacher, and of the prospective city superintendent. The normal schools of our state are well equipped for supplying the wants of the elementary schools, and it is intended that this work shall be supplemented, though not duplicated, here. The department works in conjunction with others of the University in directing the student's energies in such a way that the technical preparation to teach a special group of high school subjects may be combined with the proper pedagogical training. Special problems in research and investigation are offered to graduate students.

The department possesses a pedagogical library and museum, which is a unique feature. It contains various materials of interest and value to the student of the theory and art of teaching, and forms a working pedagogical laboratory.

ENGLISH LANGUAGE AND LITERATURE

The courses are designed to give a continuous view of the twofold subject from the earliest times to our own day. In junior and senior years courses are offered in both lines, so that students, having had the fundamental work of the

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sophomore year, may, if desired, confine themselves either to philology or to literature. The aim in the study of literature is to approach the works of an author from the philosophical, emotional, and esthetic, as well as from the merely linguistic and historical points of view.

FRENCH

(See Romanic Languages, p. 87.)

GERMAN

Four years of instruction are offered in this subject. By alternating the work in the third and fourth years, provision is made that students whose knowledge of the language at entrance enables them to begin with the third year's work can pursue the subject throughout their course. The work of the first and second years is intended to give the student the best possible reading knowledge. In the second semester of the second year an opportunity is offered those whose special interest in the language is as a tool in scientific or technical studies, to read some work of a scientific character. Ability to translate readily and accurately is, in all cases, especially emphasized.

The work of the third and fourth years consists of a critical study of the classic poets and modern writers, and of lectures in German literature.

GOVERNMENT (SCIENCE OF)

The courses in science of government are planned with two purposes in view: (1) to give, in conjunction with the instruction in economics, history and public law that information and training which are requisite to intelligent citizenship; and (2) to afford opportunities for advanced work to those who may desire more thorough preparation, either for active political life or preliminary to the study of law.

GREEK

The general purposes of the courses laid out in this subject are, first, to teach the Greek language; second, to train

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students to appreciate its literature; and third, to call attention to those numerous problems in the history, thought, and institutions of the Greeks which illustrate similar phenomena noticeable among ourselves. To accomplish the first object, due attention is paid to the principles of grammar, particularly by making the syntax appear as the expression of orderly mental procedure, and by continual practice in extemporaneous translation. The second is effected by a study of the surroundings and spirit of an author, and of those literary devices which give character to his productions. The third end is reached through familiar talks upon suitable topics as they are met.

HISTORY

In the courses offered by this department the effort is made, not merely to give students a general knowledge of historical facts, but also to give them some conception of the aims and methods of historical science, and of the materials with which it deals. To this end exercises in historical investigation, more or less elementary, form a prominent part of the work in all the higher undergraduate courses, as well as in the seminaries.

HOUSEHOLD SCIENCE

The work of this department aims to be at once scientific, artistic, and practical. It is intended to afford training for the proper discharge of the duties of the home. A fuller description is given on page 130. All the work of the department counts towards the arts' degree.

ITALIAN

(See Romanic Languages, p. 87.)

LATIN

The courses at present offered in Latin are eleven in number and extend over four years. The first year's instruction is, as far as needed, grammatical, prominence being given to Latin writing as the best method of acquiring a mastery of the language.

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As soon as this preliminary work is done, the attention is directed to two ends. The first is the acquisition of power to read the language with ease and pleasure. The thought is constantly emphasized that students are not simply reading Latin—they are reading some of the great literary masterpieces of the world, and should enjoy them as such. The second aim is to introduce the student to the daily life of the Romans; to make his home life vivid and his political life a reality.

The courses offered include a teachers' class, the work of which is based on the needs of those teaching preparatory Latin, and methods of presentation, difficulties, aims, and results are discussed. The members of the class do the work which they, as teachers, should require of their pupils, and at intervals take charge of the recitation.

MATHEMATICS

All the courses offered by the department of mathematics are open to the students of the College of Literature and Arts. These courses are so arranged that a student may take continuous work in the subject for from one to four years. They are designed to meet the needs of (a) those students who wish to pursue the subject for its disciplinary value, or as an element of a liberal education; (b) those who wish to prepare to teach mathematics in high schools and colleges; (c) those who wish to acquire a sufficient command of the science to make use of it as a means of investigation, as, for example, in its application to the study of statistics, economics, life insurance, etc. For specialized courses see philosophical group, p. 75.

MILITARY SCIENCE

The work of the department of military science is prescribed for all male students of the Colleges of Literature and Arts, Engineering, Science, and Agriculture. A full description of the work offered and of the aims and scope of the department will be found farther on in the catalog. (See p. 297.)

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PHILOSOPHY

The work in this department includes history of philosophy, metaphysics, ethics, and logic, and is so arranged that the student may take a continuous course for either one or two years.

The courses are planned to meet the needs of those who make philosophy their specialty, and also of those who desire an acquaintance with the subject as a means of general culture. It is the constant aim to emphasize the meaning and interest of philosophy and the relations of its problems to the life of man. The department for the present offers courses in anthropology.

PHYSICAL TRAINING

The work of this department is offered to all students in the University. Consequently the department properly belongs in all the colleges. A full description of its aim and scope is given farther on. (See p. 298.)

PSYCHOLOGY

Besides the opportunity offered in this department for scientific training and original research, there is also given a basis for general culture. The student is taught to observe psychic phenomena in himself and in his social surroundings, both individual and collective, and is thus given a standpoint from which to approach social and ethical questions intelligently.

Historically, psychology is treated with a view to giving the student a connected idea of the development of the subject. Its experimental development and recent phases are given special attention, with particular comment upon the probable lines of its future development, and the place in human economy which it aims to fill.

RHETORIC AND ORATORY

The object of the courses in this department is to acquaint the student with the principles of rhetoric, to teach him correctness and effectiveness in the writing of English,

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and to give him some practice in the oral expression of his ideas. The subject matter is presented by means of text-books and lectures, though more emphasis is put upon practice than upon theory.

ROMANIC LANGUAGES AND LITERATURES

This department offers four years of instruction in French and one year each in Spanish and Italian. In the elementary courses the main object is to give the student correct pronunciation, grammatical knowledge, and the ability to read the languages with facility. In the second year attention is especially directed to various phases of nineteenth century literature; effort is made to ground the student thoroughly in the modern idiom, and lectures are given upon the outlines of French literature. The work of the third year is a study of the masterpieces of the seventeenth century. Ability to understand readily spoken French is requisite for admission to this course. The field of the fourth year's work is literature and society in the eighteenth century. A graduate course is offered in Old French; some of the more important texts are studied, and attention is given to the origins of the language.

SOCIOLOGY

See courses 15 and 17 under economics, p. 210. See also for allied courses, anthropology, p. 177, and philosophy, p. 264.

SPANISH

(See Romanic Languages above.)

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COLLEGE OF ENGINEERING

AIMS AND SCOPE

The purposes of the College of Engineering are thoroughly to prepare men for the professions of engineering and architecture, and also to offer a first-rate training for future managers of great business enterprises. The different courses must therefore comprise both general and technical studies. A primary requisite of success is the ability to present briefly and clearly ideas in terse, correct, and vigorous English. A large fund of general knowledge is now essential to every professional man in order to maintain proper influence among business men. An acquaintance with social customs and life is equally helpful. . .

The marked tendency now toward specialization requires the graduate to be able successfully to enter any specialty of his profession, thus requiring both breadth and thoroughness in his technical training, with frequent applications to practical problems. Employers have no time to educate assistants in the details of their work.

But a solid foundation in mathematics is still indispensable, and this science is so presented as to be most practically useful. Since a great part of the most valuable knowledge is found only in foreign languages, the graduate should be able to read such technical works in order to keep up with the rapid advances in modern engineering.

The time devoted to technical studies increases during the courses, and occupies more than half the period of University attendance.

METHODS OF INSTRUCTION

Text-books are used for theory, facts, and data, since (if enriched by notes and additions) they afterwards form the

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Second Year

1. Applied Mechanics (Theo. and App. Mech. 4); Wood Construction (Arch 2); The Orders of Architecture (Arch. 8); Physics 1; Monthly Problems (Arch. 9); Art and Design 8a; Rhetoric 2; Military 2.

2. Strength of Materials (Theo. and App. Mech. 5); Masonry and Metal Construction (Arch. 3); Requirements and Planning of Buildings (Arch. 15); Physics 1; Monthly Problems (Arch. 9); Art and Design 8a; Rhetoric 2; Military 2.

Third Year

1. History of Architecture (Arch. 6); Details of Styles (Arch. 7); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Architectural Designing (Arch. 17); Chemistry 1, or Economics 1a; Monthly Problems (Arch. 9).

2. History of Architecture (Arch. 6); Details of Styles (Arch. 7); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Architectural Composition (Arch. 18); Working Drawings and Residence Design (Arch. 10, 16); Monthly Problems (Arch. 9).

Fourth Year

1. Superintendence, Estimates and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Renaissance Design (Arch. 22); Gothic and Romanesque Design (Arch. 23, 24); Mural Decoration (Arch. 28).

2. Design of Ornament (Arch: 25); Mural Decoration (Arch. 28); Surveying (Civil Eng'g 10); Thesis.

ARCHITECTURAL ENGINEERING

This course of study prepares graduates for professional practice as architects, structural designers and computers, as well as superintendents of construction. It is intended for students who prefer the structural and mathematical side of the profession to its artistic side, and who desire to pursue the full engineering course in mathematics and to acquire a thorough knowledge of the iron and steel construction now employed in buildings. It differs from the architectural course principally in the addition of a second year of mathematics and of a year of study in bridge

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analysis and design, and in devoting considerably less time to architectural drawing and design.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Architectural Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1), or Free-hand Drawing or Modeling (Arch. 20 or 21); French 1, or German 1 or 4;* Military 2; Physical Training 1, 3 or 7.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); or Free-hand Drawing (Arch. 20 or 21); or Architectural Perspective (Arch. 14); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Differential Calculus (Math. 7); Wood Construction (Arch. 2); The Orders of Architecture (Arch. 8); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Masonry and Metal Construction (Arch. 3); Requirements and Planning of Buildings (Arch. 15); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and App. Mech. 1, 2a); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Chemistry 1.

2. Resistance of Materials, Hydraulics (Theo. and App. Mech. 2b, 3); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Chemistry 16.

Fourth Year

1. Superintendence, Estimates, and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Architectural Engineering (Arch. 19); Bridge Analysis and Details (Civil Eng'g 12, 13).

2. Working Drawings (Arch. 10); Residence Design (Arch.

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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16); Bridge Details and Design (Civil Eng'g 13, 14); Surveying (Civil Eng'g 10); Thesis.

CIVIL ENGINEERING

The design in this department is to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice, which will enable the student to enter intelligently upon the various duties of the civil engineer. While the instruction aims to be practical by giving the student information and practice directly applicable in his future professional work, the prime object is the development of the mental faculties. The power to acquire information and the ability to use it are held to be of far greater value than any amount of so-called practical knowledge.

EQUIPMENT

This department has an extensive equipment of compasses, engineers' transits, solar transits, levels,—ordinary and precise,—plane tables, sextants, chronometers, barometers, etc. For the lecture room, the department is provided with a collection of structural shapes and with full-sized joints of an actual railroad bridge, sections of columns, eye-bars, etc., and a collection of lithographs, photographs, and blue-prints of bridges and buildings.

The *cement laboratory* occupies rooms in Engineering Hall, and is provided with slate tables, testing machines, molding machines, sieves, etc., and sample barrels of hydraulic cement, varieties of sand, and other necessary materials.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Civil Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g

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1); French 1, or German 1 or 4;* Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and App. Mech. 1, 2a); Railroad Engineering (Civil Eng'g 4); Chemistry 1; Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, and Hydraulics (Theo. and App. Mech. 2b, 3); Graphic Statics (Civil Eng'g 20); Road Engineering (Mun. and San. Eng'g 1); Descriptive and Practical Astronomy (Astron. 3, 6); or Engineering Geology (Geol. 13); Steam Boilers (Mech. Eng'g 17); Railroad Structures (Civil Eng'g 19).

Fourth Year

1. Bridge Analysis (Civil Eng'g 12); and Bridge Details (Civil Eng'g 13); Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Metal Structures (Civil Eng'g 24); Thesis (Civil Eng'g 30).

2. Bridge Design (Civil Eng'g 14); Sewerage (Mun. and San. Eng'g 3); Tunneling (Civil Eng'g 18); Economics 2 or 8; Engineering Contracts and Specifications (Civil Eng'g 16); Thesis (Civil Eng'g 30).

ELECTRICAL ENGINEERING

This is a course in theoretical and applied electricity. The first two years of work are substantially the same as in the other engineering courses. The last two years include

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in addition to the regular electrical work courses in Theoretical and Applied Mechanics and Steam Engineering. The student is thoroughly familiarized with principles and their applications in designing and in experimental and constructive work.

EQUIPMENT

The lecture rooms, drafting rooms, and laboratories are equipped with the latest and best apparatus. In the dynamo laboratory are various sizes and types of direct and alternating current dynamos, motors, and converters; transformers for all classes of polyphase testing; direct and alternating current switch-boards, of eight marble panels each, with every appliance for expeditious handling of electric currents. Stock, tools, and instruments of best quality are provided for each line of work. The standardizing and photometry rooms, the research and thesis rooms are equipped as may be required for special and advanced work. The workshop of this department is fitted for the several branches of electrical construction. Power is supplied from the storage battery installation of this department and from the University electric light and power plant, whose direct and alternating current dynamos, driven by steam engines, also afford many facilities for experimental work.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Electrical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); French 1, or German 1 or 4;* Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2a); French 1, or German 3 or 5 or 6; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University

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Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Chemistry 1; Electrical and Magnetic Measurements (Physics 4); Dynamo-Electric Machinery (Elect. Eng'g 16); Steam Engines (Mech. Eng'g 16).

Beginning with the first semester, 1899-00, the following groups of elective studies were opened to all students of Electrical Engineering who have satisfactorily completed the prescribed work of the preceding two years and a half, and for which additional work the same degree will be given.

GROUP I.—ELECTRICAL ENGINEERING

Regular Electrical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 16); Electrical and Magnetic Measurements (Physics 4); Mechanical Engineering Laboratory (Mech. Eng'g 13); Telegraphy and Telephony (Elect. Eng'g 4); Electrical Engineering Laboratory (Elect. Eng'g 22); Electrical Design (Elect. Eng'g 31).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents (Elect. Eng'g 5); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electric Transmission (Elect. Eng'g 15); Electric Lighting (Elect. Eng'g 9); Electric Traction (Elect. Eng'g 10); Electrical Engineering Laboratory (Elect. Eng'g 23); Electrical Engineering Laboratory (Elect. Eng'g 27); Elective (three semester hours); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32, 33); Seminary (Elect. Eng'g 13); Estimates, Specifications, and Superintendence (Mech. Eng'g 10);

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Economics 2; Advanced Electrical Measurements (Physics 9); Electro-Metallurgy (Elect. Eng'g 12); Electrical Engineering Laboratory (Elect. Eng'g 23, 24); Thesis.

GROUP II.—ELECTRICAL ENGINEERING

Electro-Physical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 16); Electrical and Magnetic Measurements (Physics 4); Telegraphy and Telephony (Elect. Eng'g 4); Electrical Engineering Laboratory (Elect. Eng'g 22); Differential Equations (Math. 16).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents and Alternating Current Transformer (Elect. Eng'g 5); Electrical Transmission (Elect. Eng'g 15); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical Engineering Laboratory (Elect. Eng'g 23); Theory of Equations (Math. 10); Least Squares (Math. 14); Introduction to Theoretical Physics (Physics 6); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical Engineering Laboratory (Elect. Eng'g 25); Calculus of Variations (Math. 20); Introduction to Theoretical Physics (Physics 6); Investigations of Special Problems (Physics 7); Thesis.

GROUP III.—ELECTRICAL ENGINEERING

Electro-Chemical Course

Third Year

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 2); Electrical and Magnetic Measurements (Physics 4); Qualitative Analysis (Chem. 3a).

Fourth Year

1. Alternating Current Machinery (Elect. Eng'g 6); Alternating Currents and Alternating Current Transformer (Elect. Eng'g 5); Electrical Distribution (Elect. Eng'g 7); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Quantitative

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Analysis (Chem. 5a); Introduction to Theoretical Physics (Physics 6); Thesis.

2. Electric Light and Power Plants (Elect. Eng'g 11); Electrical Design (Elect. Eng'g 32); Seminary (Elect. Eng'g 13); Electrical Engineering Laboratory (Elect. Eng'g 21); Electro-Metallurgy (Elect. Eng'g 12); Electro-Chemical Analysis (Chem. 15c, 15d); Investigation of Special Problems (Physics 7); Thesis.

MECHANICAL ENGINEERING

It is the object of this course to give the student a thorough training in the theoretical principles underlying the science of machines and mechanics, and at the same time to make him practically familiar with some of the numerous applications of these principles.

EQUIPMENT

The equipment of this department is arranged for work of three kinds—class and drawing room work, laboratory work, and shop practice.

The *drawing rooms* are equipped with modern desks, boards, filing cabinets, card indexes, reference books, catalogs, odontographs, gear charts, tables, etc. In the cabinet rooms are kinematic models and sectioned steam specialties, many of which were donated by the manufacturers.

The *steam engineering laboratory* is in the *Mechanical and Electrical Engineering Laboratory*. It contains nine steam engines available for testing purposes. The facilities for boiler testing are excellent. There are several types of boilers equipped with different kinds of automatic stokers. There are also various kinds of steam and power pumps and numerous steam specialties arranged for tests.

The laboratory contains three gas engines, an air compressor, a hot air engine, a large volume fan, and a complete outfit of instruments used by the mechanical engineer for testing purposes.

The pumping station and power plants of the two cities furnish additional apparatus for experimental work.

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The shops of the College are in charge of this department; they consist of a wood shop, foundry, forge shop, and machine shop.

The shops are large, well lighted and attractive; they are all equipped with modern tools and furnish abundant facilities for giving the student the necessary practice in this line of work.

Three hundred and fifty students can be accommodated with the present facilities.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Mechanical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); French 1, or German 1 or 4;* Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2a); French 1, or German 3 or 5 or 6; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Chemistry 1; Power Measurements (Mech. Eng'g 3); Mechanism (Mech. Eng'g 5); Steam Engines (Mech. Eng'g 23).

2. Resistance of Materials, and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Chemistry 16; Graphical Statics of Mechanism

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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(Mech. Eng'g 1b); Steam Boilers (Mech. Eng'g 17); Electrical Engineering (Elect. Eng'g 1); Surveying (Civil Eng'g 10).

Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Heat Engines (Mech. Eng'g 6); High-Speed Steam Engines and Valve Gears (Mech. Eng'g 14); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Estimates (Mech. Eng'g 10); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Economics 2 or 8; Seminary (Mech. Eng'g 19); Thesis.

RAILWAY ENGINEERING

The railroad interests of the State of Illinois, as well as of the United States, have become so important as to demand a separate recognition in the courses of those educational institutions which offer instruction in engineering.

Wishing to meet the demand for specialization in this important work the University has established an undergraduate course leading to the degree of B.S. in *Railway Engineering*, and also provides for graduate instruction and investigation in this department leading to a second degree.

Three leading railroads of the state are coöperating in the work of this new course. The department of civil engineering already furnishes special instruction relating to construction and maintenance of way. This new course will be devoted to the problems of motive power and machinery, including construction, design, and operation of locomotives and rolling stock. It will include also tests of fuel, water supply, materials, and supplies.

EQUIPMENT

The shops and laboratories of the departments of mechanical and electrical engineering, applied mechanics, and chemistry furnish abundant laboratory facilities for work along these special lines.

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The department is rapidly acquiring a considerable amount of class room and laboratory material, such as photographs, blue prints, and samples of manufactured specialties of value to the students of this work.

This department now owns, with the P. & E. Div. of the C. C. C. & St. Louis Ry., a fully equipped dynamometer car, No. 609. It also owns, with the Illinois Central R. R., a fully equipped railway test car, No. 17.

These cars have been designed and built for locomotive and railway tests, and they are used for no other purpose. They have been built and equipped with special reference to the following service:

1. Locomotive road tests for economy.
2. Locomotive capacity tests and measurements of train resistance.
3. Automatic track inspection for surface and gauge.
4. Air brake service inspection.
5. Stationary plant tests at railway shops and water stations.

The department owns a continuous steam engine indicator, apparatus for determining the effect of scale deposits on the transfer of heat through the tubes, as well as considerable apparatus designed and built for various tests of locomotives in actual service.

There has recently been presented to the department, by the New York Air Brake Company, a complete equipment of automatic air-brakes for engine, tender, and five cars.

The new railway shops of the P. & E. Div. of the C. C. C. & St. L. Ry. at Urbana furnish exceptional opportunities for inspection of construction and repair work, and the assured aid that this department will receive from the management of these shops will certainly be of great value to the student.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Railway Engineering

First, Second and Third Years

Same as the course of instruction in mechanical engineering.

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Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Locomotive Engines (Ry. Eng'g 1); Locomotive Engine Design (Ry. Eng'g 2); Shop Systems (Ry. Eng'g 3); Locomotive Road Tests (Ry. Eng'g 4); Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Compressed Air in Railway Service (Ry. Eng'g 5); Railway Estimates (Ry. Eng'g 6); Advanced Designing (Ry. Eng'g 7); Dynamometer Car Tests (Ry. Eng'g 8); Economics 2 or 8; Seminary (Mech. Eng'g 19); Thesis.

MECHANICS, THEORETICAL AND APPLIED

The courses in theoretical and applied mechanics are designed to meet the needs of students of the College of Engineering.

Laboratory work is given in connection with class room instruction. The laboratory of applied mechanics, comprising the materials laboratory and hydraulic laboratory, occupies a new building. The materials laboratory is equipped with testing machines for tension, compression, flexure, and torsion, and for testing paving brick and building materials. The hydraulic laboratory has a standpipe, pumps, water motors, measuring pits, Venturi meters, weir conduits, meter rating conduit, orifice boxes, weir boxes, and apparatus for experimental work on flow of water through pipes, hose, and nozzles. The University water-works furnishes an abundant supply of water at pressures up to 100 lbs. per sq. in. The equipment of both laboratories is also available for original investigation.

MUNICIPAL AND SANITARY ENGINEERING

This course is designed for students desiring to make a specialty of city engineering work. It prepares for the varied duties of engineer of the department of public works of cities and includes instruction in modern methods of sanitation of cities.

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INSTRUCTION

Instruction is given by lectures, by text-books and seminary work, and by field, laboratory, and drafting work. The methods of training are intended to develop power to take up and solve new problems connected with municipal public works, as well as to design and to superintend the ordinary constructions. Surveying, structural materials, and structural design are taught as in the civil engineering course. Chemistry, botany, and bacteriology, so far as necessary to a comprehension of the questions involved in water supply and sewage disposal, are given.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Municipal and Sanitary Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1); French 1, or German 4;* Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and Appl'd Mechanics 1, 2a); Bacteriology (Mun. and San. Eng'g 5a); Chemistry 1; Railroad Engineering (Civil Eng'g 4a); Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Road Engineering (Mun. and San. Eng'g 1);

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Graphic Statics (C. E. 20); Chemistry 3b; Steam Boilers (Mech. Eng'g 17); Electrical Engineering 1.

Fourth Year

1. Bridges (Civil Eng'g 12, 13); Chemistry 20; Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Thesis.

2. Bridge Design (Civil Eng'g 14a); Engineering Contracts and Specifications (Civil Eng'g 16); Mechanical Engineering Laboratory (Mech. Eng'g 13); Sewerage (Mun. and San. Eng'g 3); Water Purification, Sewage Disposal, and General Sanitation (Mun. and San. Eng'g 6); Thesis.

PHYSICS

The purpose of the courses in this department is to furnish the student who intends to follow the profession of engineering, science teaching, or research in physical science, with a knowledge of the phenomena and laws of physics.

LABORATORY AND EQUIPMENT

The physics department occupies about 1,500 square yards in Engineering Hall. The rooms are a lecture room, with seats for 180 students; four adjoining rooms, for lecture apparatus and preparation; a general laboratory room 60 feet square, for first year experimental work; an adjoining apparatus room; six small laboratories on the first floor with masonry piers, a constant temperature room, a battery room, a work shop, and three offices for instructors. These rooms are supplied with gas, water, compressed air, vacuum pipes, polyphase—alternating and direct electric currents, and other facilities for instruction and investigation in physics. The laboratory contains a large collection of standard electrical and magnetic measurement apparatus from the best makers, together with various pieces and devices designed and constructed in the department, so that the facilities for all such work are equal to the very best. In optics there are spectrometers, Rowland diffraction gratings

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(plane and concave), a Fresnal optical bench, a complete photometer bench in a well equipped dark room, a spectrum photometer, polarization apparatus, etc. The collection also includes apparatus for measurements of precision, such as balances, driving engine, cathetometer, chronograph, Kater's pendulum, thermometers, etc. The apparatus for first year experimental work has been greatly increased recently and is believed to be now unsurpassed. The workshop of the department is equipped with power lathe, milling machine and a good collection of tools. The services of a mechanician give the department facilities for making apparatus from original designs, both for instruction and investigation.

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COLLEGE OF SCIENCE

AIMS AND SCOPE

The College of Science is based upon the idea that the methods of science and the branches of study to which those methods are applicable, present a subject-matter and a discipline suited to the purposes of a liberal education, and that an education so derived differs materially in character and value from one whose substance is mainly literary. This College is distinguished in general from the technical colleges of the University by the fact that its choice of subjects is not limited by practical ends, and from the College of Literature and Arts by the predominance, in its courses and requirements, of the strictly scientific subjects. It is articulated with the latter, however, by the liberal elections from the literary courses permitted to students who have satisfied its demands as to scientific work, and by the special courses in science open to election by students from the companion College.

ORGANIZATION OF SUBJECTS

The offerings of this College include three groups of subjects: prescribed, major electives, and general electives. The prescribed subjects are required of all students unconditionally; the major electives are to be chosen by each from a considerable list of courses in the subjects most characteristic of the work of the College; and the general electives are taken, subject to the approval of the Dean, from any courses offered by the University. The student is thus allowed great liberty of choice with respect both to main

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lines of study and to associated and secondary subjects, and at the same time is so guided as to his elections that his course shall always contain an axis of closely articulated major work.

The subjects offered are further combined in various courses of instruction arranged on substantially the same general plan but making somewhat different graduation requirements. In the general science course the elections are least restricted. Its specific requirements amount to 46 hours for men and to 41 hours for women; the electives chosen from the list of majors amount to 40 hours' credit; and the remaining studies necessary to complete the total graduation requirement of 130 hours are elected by the student at will, subject only to the approval of the College Dean.

By modification of this general course, special courses are provided for in chemistry, in education, in household science, in mathematics, in physics, and in the studies preliminary to medicine.

CLASSIFICATION OF SUBJECTS

General Prescribed List

Chemistry 1, 3b, 4; 10 hours; or 1, 2, 3a, 5a, 9, 9a, 9c; 23 hours.
German 1, 3, 5 or 6; 16 hours.
French* 1 or 5, or one year of advanced German; 8 or 10 hours.
Mathematics 3 or 4; 2 or 3 hours.
Military Science 1, 2; 5 hours.
Physical Training—
Men, 1, 3; 2 hours.
Women, 7, 9; 3 hours.
Rhetoric 2; 6 hours.

Major Electives

Astronomy 3, 5 to 14.
Botany 1 to 5, 7, 9, 10.
Chemistry† 2, 2a, 3, 5 to 15, 17 to 19, 21, 23 to 25.
Entomology 2, 3, 5, 6.

* Two years' entrance credit in a foreign language will be accepted in lieu of this requirement.

† Courses in Chemistry and Mathematics taken to meet the requirement of the prescribed list may not be counted as major electives.

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Geology 1, 2, 4 to 9.
Household Science 1 to 5.
Mathematics 1 or 2, 3 or 4, 6, 8a, 8b, 10 to 26.
Physics 1, 3 to 10.
Physiology 1 to 3, 5.
Psychology 1 to 8.
Zoölogy 1 to 4, 8, 9, 12.

The following subjects are open, as majors, to students in chemical courses only:

Civil Engineering 10.
Electrical Engineering 1.
General Engineering Drawing 1a, 1b, 1c.
Mechanical Engineering 1, 13, 16, 17.
Theoretical and Applied Mechanics 1, 2a, 2b, 3.

DEGREES

The usual degree given for work in this College is that of bachelor of arts, but the degree of bachelor of science may be given on recommendation of the head of the department in which the principal major work has been done, and approval by the Faculty of the College.

REQUIREMENTS FOR GRADUATION

In a General Course in Science

A student may graduate from a General Course in Science by taking the subjects of the general prescribed list; 40 hours of work from the major electives (which must include 30 hours in one subject or 20 hours in each of two subjects); and additional studies, chosen, with the approval of the Dean of the College, from any courses offered by the University, and sufficient to complete the general graduation requirement of 130 hours' credit; *provided* that no student shall be graduated from this course with less than 5 hours' credit in physics or geology, and 5 hours in botany or zoölogy.

A thesis course may be taken in any department (subject to the approval of the head thereof) in which the student has done 20 hours of major work preceding his senior year.

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Students desiring to take a thesis course in geology or mineralogy may add to their credits in those subjects those received for chemistry also; and students in physiology may add to their credits in that subject those in zoölogy and bacteriology. Only students graduating with a thesis will, as a rule, be selected for fellowships, scholarships, and other similar university honors.

PROSPECTUS OF COURSES OF INSTRUCTION

In the following list the prescribed subjects, and the major electives in general science available for freshmen, are given in full for the freshman year, the required subjects in italics. For the remaining years only the prescribed subjects are given. *In making up the study list for any semester students should take the subjects italicised, and select from the remainder enough to make the requisite amount of work.*

First Year

1. *Art and Design* 1 or 1b; *Chemistry* 1; *Mathematics* 3 or 4 (*Trigonometry*); *Military* 2; *Physical Training* 1, 3 or 7, 9; Mathematics 1 or 2 (Advanced Algebra); Botany 2, 11; Zoölogy 10, 2; Household Science 2.
2. *Chemistry* 2, 3a, or 3b and 4; *Military* 1, 2; Mathematics 6; Physics 2; Art and Design 2; Botany 1, 5; Entomology 1; Zoölogy 1; Household Science 1, 3.

Second Year

1. *German* 1 or 4; *Military* 2.
2. *German* 3 or 6; *Military* 2.

Third Year

1. *German* 4; *Rhetoric* 2.
2. *German* 5 or 6; *Rhetoric* 2.

REQUIREMENTS FOR GRADUATION

In Special Science Courses

To graduate from one of the special courses in science a student must take all the subjects of the general prescribed list (see page 107) together with such additional prescribed subjects and such major electives as are specified under his

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course, the major electives subject to approval by the head of the department. He must also take enough other work, chosen with the approval of the Dean of the College, from any university offerings, to complete the full graduation requirement of 130 hours' credit.

CHEMISTRY

To graduate in chemistry the candidate must take, in addition to the subjects of the general prescribed list as printed on p. 107 (including the second alternative in chemistry), the following studies especially prescribed for this course:

Mathematics 1 or 2; 2 or 3 hours.

Chemistry 2a, 7, 9a, 9b, 11, 14, 18a, 19; 20 hours.

He must further take 28 hours' work (13 of which must be in chemistry) from the general list of major electives (p. 107), and additional studies, subject to the approval of the College Dean, sufficient to amount to 130 hours' credit in all. He must also file a thesis acceptable to the head of his department.

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. General Elementary Chemistry (Chem. 1); German 1 or 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.

2. Descriptive Inorganic Chemistry (Chem. 2); German 3 or 6; Inorganic Preparations (Chem. 2a); Qualitative Analysis (Chem. 3a); Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. German 4; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Military 2.

2. German 5 or 6; Organic Chemistry (Chem. 9 and 9a); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Organic Chemistry, special chapters (Chem. 14); Rhetoric 2.

2. Physical Chemistry (Chem. 7); Rhetoric 2; Seminary (Chem. 19).

Fourth Year

1. Seminary (Chem. 19).

2. Seminary (Chem. 19).

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CHEMICAL ENGINEERING

The work of the technical chemist or superintendent is frequently so closely associated with mechanical and other engineering lines as to make a knowledge of these subjects essential. To meet these conditions, the following four years' course in chemistry and related engineering subjects has been arranged. Where options are allowed, the subjects chosen must be such that the total course shall contain the 130 hours' credit required for graduation.

COURSE OF INSTRUCTION

For the Degree of B. S. in Chemical Engineering

First Year

1. General Elementary Chemistry (Chem. 1); German 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.

2. Descriptive Inorganic Chemistry (Chem. 2); German 5 or 6; Mathematics 6; Qualitative Analysis (Chem. 3a); Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Mathematics 8a; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Military 2.

2. Industrial Chemistry (Chem. 17); Iron and Steel Analysis (Chem. 8); Organic Chemistry (Chem. 9); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Drawing (Gen. Eng'g 1a, 1b, 1c); Organic Chemistry (Chem 14); Shop Practice (Mech. Eng'g 1).

2. Electrical Engineering (Elect. Eng'g 1); Physics 5c or 5d, or Elective; Physical Chemistry (Chem. 7a); Resistance of Materials and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Shop Practice (Mech. Eng'g 1); Seminary (Chem. 19).

Fourth Year

1. Chemical Technology (Chem 6a); Metallurgical Analysis (Chem. 15a, b); Geology 10; Sanitary and Technical Water Analysis (Chem. 10); Steam Engines (Mech. Eng'g 16); Seminary (Chem. 19); Thesis (Chem. 11).

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2. Civil Engineering 10, or Elective; Gas Analysis and Calorimetry of Fuels (Chem. 18a); Metallurgy (Chem. 6b); Mechanical Engineering 13; Steam Boilers (Mech. Eng'g 17); Thesis (Chem. 11).

EDUCATION

To graduate with a preparation for the teaching of science in the secondary schools, the student must meet the requirements of the general science course, as described on pp. 108-9, choosing his major electives in those subjects which he wishes especially to teach, and adding to the prescribed list in general science education 1, 3 and 7, psychology 1, philosophy 1, and at least four hours more in education or psychology. If he wishes to graduate with a thesis he may count the credits of his major line of science work, with those in education, to make the twenty hours necessary at the beginning of the senior year.

ELECTION OF MAJOR COURSES

As a preparation for the teaching of specialties in secondary schools, students are advised to make elections of major work as follows:

Astronomy 3 or 4, 5, 6; 8 or 10 hours.

Botany 11, 1, 2; 15 hours.

Chemistry 1, 3a, 5a, 7, 9; 21 hours.

Geology 5, 1, 2; 15 hours.

Mathematics 1, 3, 6, 8a; 15 hours.

Physics 1, 3, and 15 hours work from the following courses: 5a, 5b, 5c, 5d, and 6a, 6b, 6c, 6d; 20 hours.

Physiography (Geol. 8); 10 hours.

Zoölogy 10, 1, 2, 9; 20 hours. Entomology 3, may be profitably added to the above.

HOUSEHOLD SCIENCE

It is the purpose of this course to give women a liberal education with a basis of pure and applied science, and to provide for those specializing in science an opportunity for

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the correlation of their work with special applications of science to the home. To graduate in household science a student must take the studies of the general prescribed list (p. 107), including the first alternative in chemistry, and in addition the following studies especially prescribed for this course:

Art and Design 1b, 16, 19; 5 hours.
Botany 1, 5; 10 hours.
Chemistry 5a or 20, 5c; 5 to 10 hours.
Economics 1 or 2, and 15 or 12; 5 hours.
Household Science 1 to 9; 21 hours.
Physics 2; 5 hours.
Physiology 4; 5 hours.
Zoölogy 10; 5 hours.

Additional subjects sufficient to make the total of 130 hours' work required for graduation may be taken, subject to the approval of the Dean of the College, from any courses offered by the University.

PROSPECTUS OF THE REQUIRED COURSES

First Year

1. Art and Design 1b; Chemistry 1; Mathematics 4; Rhetoric 2; Zoölogy 10.

2. Household Science 1;* Chemistry 3b and 4; Physics 2; Rhetoric 2.

Second Year

1. Chemistry 5a or 20; German 1; Household Science 6, 7; Art and Design 16, 19.

2. Chemistry 5c; German 3; Botany 1; Art and Design 16, 19; Household Science 5.†

Third Year

1. Economics 1; German 4; Household Science 2, 8.

2. German 5 or 6; Household Science 3, 4; Botany 5.

Fourth Year

See elective list and requirements for graduation.

* This course will be given the first semester in 1902-1903 to not less than five students.

† This course may be given the first semester in 1902-1903.

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MATHEMATICS

To graduate in mathematics, the candidate must take the subjects of the prescribed list on p. 107 (including the first alternative in chemistry), and also mathematics 2, 6, 8a, 8b, 10, 11, 16, 17. He must, further, take 20 hours' work from the list of major electives printed on p. 107, which shall include the preparation of an acceptable mathematical thesis (mathematics 15), and ten hours in some line of applied mathematics. The remaining work necessary to complete the 130 hours required for graduation may be selected from any university offerings subject to the approval of the College Dean.

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. Mathematics 1 or 2, and 3 or 4; German 1 or 4; Chemistry 1; Military 2; Physical Training 1, 3 or 7, 9.
2. Mathematics 6; Chemistry 3a or 3b, 4; German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Mathematics 8a; German 4; Rhetoric 2; Military 2.
2. Mathematics 10, 11; German 5 or 6; Rhetoric 2; Military 2.

Third Year

1. Mathematics 8b, 16; Applied Mathematics.
2. Mathematics 8b, 17; Applied Mathematics.

Fourth Year

1. Mathematics 15.
2. Mathematics 15.

PHYSICS

To graduate from a special course in physics a student must take the studies of the general prescribed list (p. 107), including the first alternative in chemistry, together with the following studies especially prescribed for this course.

Mathematics 1 or 2, 6, 8a (or 7 and 9); 12 to 19 hours.

Physics 1 or 2, 3, 5a, 6a, 10; 21 to 24 hours.

He must further choose from the major elective list (p. 107) physics courses sufficient to bring the total of his credits in physics up to 30 hours, together with additional

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subjects taken from any university offerings, but subject to the approval of the College Dean, sufficient to complete the graduation requirement of 130 hours. He must also file a thesis approved by the head of his department in the line of his major work.

PROSPECTUS OF REQUIRED COURSES

First Year

1. Advanced Algebra and Trigonometry (Mathematics 2, 4); German 1 or 4; Chemistry 1; Rhetoric 2; Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Mathematics 6); German 3 or 5 or 6; Chemistry 3b, 4; Rhetoric 2; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Physics 1 or 2, 3; Differential Calculus (Mathematics 7 or 8a); Rhetoric 2; German 4; Military 2.

2. Physics 1 or 2, 3; Integral Calculus (Mathematics 9); Rhetoric 2; German 5 or 6; Military 2.

Third and Fourth Years

Physics 5a, 6a, and 10.

COURSE PRELIMINARY TO MEDICINE

To graduate in a general science course arranged with special reference to medical study following, the student must take the subjects on the general prescribed list, page 107 (including the second alternative in chemistry), and the following list of studies especially prescribed for this course.

Chemistry 9c; 2 hours.
Botany 5; 5 hours.
Latin.*
Physics 2; 5 hours.
Physiology 1,† or 1 and 2.‡
Psychology 2; 5 hours.
Zoölogy 10, 2, 3; 15 hours.

* Those who offer Latin for entrance must take German in this course; those who offer German for entrance should take its equivalent in Latin before going on with German in the University.

† Sufficient if three-year course is taken.

‡ Recommended if full four-year course is taken.

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Additional studies sufficient to make up the full requirement of 130 hours may be chosen from any university courses subject to the approval of the Dean of the College.

The prescribed studies should be taken according to the following prospectus:

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. Art and Design 1b; Elementary Chemistry (Chem. 1); Rhetoric and Themes (Rhet. 2); Military 2; Physical Training: for Men 1, 3; for Women 7, 9; Trigonometry (Mathematics 4); Zoölogy 10.

2. Descriptive Inorganic Chemistry (Chem. 2); Qualitative Analysis (Chem. 3a); Physics 2; Rhetoric and Themes (Rhet. 2); Military 1, 2.

Second Year

1. German 1 or 4, or Latin; Zoölogy 2; Quantitative Analysis (Chem. 5a); Military 2.

2. German 3 or 5 or 6 or Latin; Zoölogy 3; Organic Chemistry (Chem. 9, 9c); Military 2.

Third Year

1. German 4; Psychology 2; Physiology 1.

2. German 5 or 6; Physiology 1; Bacteriology (Bot. 5); Electives.

Fourth Year

1. Physiology 2.

2. Physiology 2.

To those who take this full four years' course the degree of bachelor of arts will be given. If the first three years of the above course are taken and followed by a three years' course at the Medical College, both the medical and the liberal degrees will be given on the completion of this six years' work. Students passing to the Medical College at the end of the above three years' university work will receive advanced credit there for the following subjects:

Chemistry (general, organic, qualitative and quantitative analysis, and Toxicology), Biology (Zoölogy), Normal Histology, Embryology, and Bacteriology.

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DESCRIPTION OF DEPARTMENTS

ART AND DESIGN

The general character of the work of this department is described on page 81. That required for the College of Science prepares the student to make the drawings called for in the studies of his course.

ASTRONOMY

The instruction given in astronomy is planned to meet the needs of four classes of students: (a) those who do not wish to take the time necessary to become thoroughly familiar with the facts, principles, and methods of the science, but who desire a general acquaintance with its present state and some idea of how this state has been reached; (b) engineers whose work necessitates a practical knowledge of some parts of it; (c) those students of the College of Science who wish to specialize in the geological and biological sciences, and who require a more intimate acquaintance with astronomy than can be got in one term's work; (d) those students who wish to make astronomy their specialty.

The equipment of the department consists of a students' Astronomical Observatory, a 12-inch equatorial telescope and various accessories, two 4-inch equatorials, a combined transit and zenith telescope, and a number of smaller instruments. A master clock for the electrical control of the various secondary clocks on the University campus is mounted in the clock room of the Observatory.

BOTANY

Fifteen courses of instruction are offered in this subject, each extending through one semester or through the year. The courses numbered 1 and 2, each of one semester, are intended to serve the double purpose of an introduction to the work which follows for students making botany a specialty, and to afford other students an opportunity to gain

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the general facts of the science and to acquaint themselves with the methods of instruction. To a very large extent natural objects are studied rather than books, but constant endeavor is made to introduce students to pertinent existing literature. Course 8 is devoted to economic botany. Course 11 is an introductory one for those not offering entrance credits in the subject.

The botanical laboratories are: One of large size with full equipment of microscopes, microtomes, aquaria, models, charts, etc., for general work; one specially arranged for instruction and research in vegetable physiology, having attached a glazed structure, two stories in height, adapted to facilitate experiments upon living plants and to grow specimens required in the laboratories; one fitted up for bacteriological instruction and investigation (in agricultural building) supplied with the necessary apparatus and materials; and several smaller apartments for special purposes.

The department is provided with a lecture room; a room for the herbarium and facilities for work in connection therewith; workrooms for the preparation of specimens; storage-rooms for apparatus, utensils, reagents, and materials; darkroom for photography, and rooms for offices.

Special attention has been given to parasitic fungi; and the collection of specimens and of literature upon the subject is ample for various lines of original investigation.

CHEMISTRY

The chemical offerings include courses of instruction in general elementary, inorganic, organic, physical, and theoretical chemistry, and several lines of qualitative and quantitative analysis. (See *Chemistry*, in DESCRIPTION OF COURSES, p. 191).

The first year is devoted to the consideration of general descriptive inorganic chemistry and qualitative analysis, the first half of the second year is occupied with courses in quantitative analysis, both gravimetric and volumetric, and

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the second half year is given to general organic chemistry. The work of these two years and that of the first half of the third year, which is devoted to more advanced organic chemistry, is prescribed for all students of the chemical courses, and is intended to impart a knowledge of the facts of chemistry, to develop skill and accuracy in manipulation, and to constitute a scientific grounding in the fundamental principles and laws of chemistry.

Aside from this prescribed work there are offered numerous electives in chemistry, which, by judicious selection, afford opportunity for specialization along any of the lines of analytical, pharmaceutical, technological, or pure chemistry.

APPLIED CHEMISTRY

In this department there are offered ten separate courses in technological subjects. These require as preliminary work the seven general and analytical courses. They may be further supplemented by special advanced work along some chosen line. Frequent visits are made to metallurgical and other works employing chemical processes.

EDUCATION

For a description of this department, see p. 82.

ENTOMOLOGY

It is the special purpose of the offerings in this department to utilize to the utmost for purposes of instruction the entomological collections, library, and equipment belonging to the University or made immediately available to students by the State Laboratory of Natural History and the office of the State Entomologist, both permanently established here. The entomological work of the Natural History Survey, now prosecuted continuously, and the scientific and economic studies of the State Entomologist and his assistants, give to entomological students extraordinary privileges of experience in the laboratory, the office, and the field,

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in both scientific and economic work. Six courses of instruction are offered: one in biological entomology, without conditions precedent; one in practical and economic entomology, also unconditioned; two independent, but related, semester courses making together a year of major work, with a year's zoölogy or a semester of elementary entomology as a precedent requirement; and two advanced courses, for those specializing in entomology, leading to graduation with an entomological thesis.

The instructional equipment of this department consists of a special laboratory for students, with an ample general apparatus for field work, and two special collections, one for reference by students engaged in the determination of species, and the "Bolter collection" of 120,000 specimens—maintained separately by the University and open to advanced students under suitable restrictions. The department also owns numerous *papier-maché* models, a collection of wall charts, and many microscopic slides especially prepared for students' use.

FRENCH

The first year's work in French is so arranged as to prepare scientific students to read the literature of their major subjects. See also Romanic Languages on page 221.

GEOLOGY

In this department six courses are offered in geology, three in mineralogy, one in paleontology, and one in physiography.

For students who wish more than a general acquaintance with these subjects, courses of class room and laboratory instruction have been arranged in mineralogy, geology, physiography, and paleontology, viz., geology 5, 1, 2, 6, 7, 8, 9 and 4.

Special courses, covering 5 hours each, are offered to

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students in Literature (Geology 3), Agriculture (Geology 12) and Engineering (Geology 13).

The department occupies three students' laboratories, an instructors' laboratory, a lecture room, two collection rooms, a store room, a dark room for photography, and a private office.

The laboratories are supplied with all the apparatus and tools necessary to carry forward the courses offered, and the lecture room is fully equipped with maps, charts, models, and other illustrative material.

The collection of fossils comes principally from the paleozoic, but includes a representative series from the higher groups. It contains 49,000 specimens (seven hundred and forty-two of the types described in the reports of the Illinois geological surveys are included) and 200 thin sections of corals and bryozoa.

The collection of minerals contains 12,000 specimens, and that of rocks 9,000 specimens, among which is a large number of polished granites, marbles, and other ornamental building stones, 1,000 thin sections of rocks and minerals, and 575 crystal models.

There is also a collection of Illinois soils containing 104 specimens; and a large collection of Illinois clays with their manufactured products.

GERMAN

The two years' course in German required in the College of Science is intended to prepare the student to read the literature of his major study. See also page 226.

HOUSEHOLD SCIENCE

For a description of this department see page 130.

MATHEMATICS

The courses offered in mathematics are so arranged as to meet the needs (a) of those who desire such mathematical

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knowledge as is necessary to carry on investigation in some line of applied mathematics, including work in physics, astronomy, biometry, etc.; and (b) of those who wish to make mathematics a specialty. The instruction is given, for the most part, by the aid of text-books, but several of the advanced courses are given by lectures, with collateral reading. To cultivate a spirit of independent investigation, all senior and graduate students who make mathematics their major are required to take in connection with their thesis a year's work (two-hour study) in the mathematical seminary, where the results of their investigation are presented and discussed. To the seniors and graduate students two lines of work in pure mathematics are offered and each is given in alternate years.

Courses 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25, and 26 may count either as graduate or undergraduate work.

The department is supplied with eighty-five of Brill's mathematical models. The collection includes an excellent set of plaster models illustrating the properties of surfaces of the second order, a set of string models for ruled surfaces, a set of paper models illustrating the real circular sections of certain conicoids, a complete set of Brill's models for the theory of functions, and a collection of surfaces of third order.

MILITARY SCIENCE

For description of the required work of this department see page 290.

PHYSICAL TRAINING

See page 298.

PHYSICS

The department of physics offers a lecture course in general descriptive physics with class-room experiments, extending through the year, and accompanied by an introductory laboratory course in physical measurements. This

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is followed by two courses, one experimental and the other theoretical. In the experimental course the student is trained in the most exact methods of making the fundamental physical measurements and taught how to discuss his results. The theoretical course running parallel to this discusses, with the aid of elementary calculus, the theory of some of the main subjects of physics. In the senior year the student is supposed to take up some special problem for investigation and to center his laboratory work about that. An advanced mathematical course is also offered for those who wish to follow the most advanced theories and results of the science.

PHYSIOLOGY

The special objects of the courses in physiology are as follows: (1) To give prospective students of medicine a detailed practical knowledge of the normal histological structure and vital processes of the body, and a working familiarity with the instruments of precision used in the investigation of disease. (2) To give students of all branches of biology a training in deducing logically necessary conclusions from data obtained by their own observations. (3) To furnish such a knowledge of physiology as will serve as a basis for future studies in hygiene.

The laboratory method of instruction is chiefly followed, supplemented, when desirable, by lectures, demonstrations, references to standard literature, and recitations. The laboratory work predominates in the major and advanced courses; the lectures, demonstrations, and recitations in the minor course.

The department of physiology occupies five rooms in Natural History Hall; a general laboratory, a lecture room, a private laboratory, and an advanced laboratory on the top floor, and an animal room in the attic. The general laboratory, 35 by 56 feet, is fitted at one end with desks for chemical and similar work, and at the other end with tables,

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for use with the microscope and other apparatus requiring a stable support.

PSYCHOLOGY

The object of this department is two fold. The aim is, first, to acquaint the student experimentally with psychic phenomena and to make him familiar with recent literature and standard authorities; and, second, to make contributions to the science itself.

For the suitable preparation of the student for higher work, he is from the first required to deal with the subject as an experimenter, and thus is given a practical knowledge of the phenomena which he is to handle. The laboratory is well equipped with materials and apparatus for the continuation of this work through a large number of classical experiments upon sensation, which the student is required to conduct himself, and of which a careful record is kept. The higher mental functions are then studied in a similar way, and the experimenter held responsible for the purity of the experimental conditions and the method of procedure. The history of psychology is also taken up. A full line of periodical literature is made accessible by the University, and this serves as a basis of reports in the seminary. In order to give a comprehensive survey of psychic activities, the genesis of mind with its accompanying development of neural structure is traced from the lower forms of life to its culmination in adult man.

For the accomplishment of the second aim of the department, that of original research, the laboratory is well equipped with suitable apparatus and every incentive is given toward a high grade of work. Investigations not immediately connected with the laboratory are also encouraged.

ZOÖLOGY

Nine undergraduate courses are taught in this department, and work is offered in three graduate courses. Stu-

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dents will ordinarily begin their work in zoölogy with course 10 (elementary zoölogy), of which only a part, taken as a fractional course, will be required of those who have an entrance credit in zoölogy or biology. The courses are so organized as to lead through zoölogy 10, 1, and 2 to the course especially designed for teachers (zoölogy 9), or to advanced zoölogical work; through zoölogy 10 and 1 (invertebrate zoölogy) to general entomology; through zoölogy 10 and 2 (vertebrate zoölogy) to embryology and physiology and the University preparation for medical study.

The equipment of the zoölogical department is contained in three students' laboratories, an instructor's laboratory, a lecture room, a private office, a store room, and a dark room for photography. Advanced and graduate students have the use of the library and equipment of the State Laboratory of Natural History, which occupies rooms in Natural History Hall.

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COLLEGE OF AGRICULTURE

AIMS AND SCOPE

The College of Agriculture offers students an education designed to fit them for the business of farming, and at the same time to furnish a means of culture. This education is, therefore, partly technical and partly cultural. Its end is the training of students to be not only successful farmers, but good citizens and successful men as well. In other words, it seeks to provide an education suitable to the needs of rural people.

Of the courses leading to graduation in the College of Agriculture, the technical portion constitutes about one-half of the entire work of the student. Of the remaining portion of the course, thirty-five hours are prescribed in the sciences nearest related to agriculture. Since the technical subjects are also of a scientific character, the course as a whole is essentially scientific, rather than literary; yet the College is mindful of the educational importance of history, literature, language, and the political sciences, and reasonable attention is, therefore, given to these subjects and their pursuit is encouraged by a liberal amount of open electives.

The College also offers, through the department of Household Science, a variety of courses, especially treating of the affairs of the home.

METHODS OF INSTRUCTION

Of the twenty instructors in technical subjects, sixteen devote their entire time to agriculture. Instruction is by laboratory work, supplemented by text-books, lectures, and

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reference readings, which are almost constantly assigned from standard volumes and periodicals. The student is brought into close practical contact with his subject. He takes levels, lays tile, tests the draft of tools, traces root systems of corn and other crops, tests germination of seeds, determines the fertility in soils and the effects of different crops and of different rotations upon soil fertility. He does budding, grafting, trimming, and spraying, and works out problems in landscape gardening. He tests milk, operates separators, makes and judges butter and cheese. He studies cuts of meat and samples of wool, judges a great variety of animals, and has practice in diagnosing and treating their diseases.

EQUIPMENT

The College keeps on deposit from the largest manufacturers several thousand dollars' worth of plows, cultivators, planters, cutters, shellers, grinders, mowers, binders, engines, etc. It has extensive collections of agricultural plants and seeds and their products. Laboratories are well equipped with apparatus and appliances for the study of manures, fertilizers, fertility of soils, soil physics, soil bacteriology, germination of seeds, corn judging, etc. The grounds of the University and the fields and orchards of the Experiment Station are always available for illustration in class work. An illustrative series of colored casts of fruit and enlarged models of fruits and flowers, collections of seeds and woods, cabinets of beneficial and noxious insects, with specimens of their work, photographs, maps, charts, drawings, lantern slides,—all afford valuable material for study and illustration.

Specimens of Morgan horses; Shorthorn, Jersey, Ayrshire, and Holstein-Friesian cattle; Shropshire, Merino, and Dorset sheep, and Berkshire swine afford material for judging. This material, moreover, is largely increased by loans from prominent herds. In the dairy department is a complete outfit for a milk-testing laboratory, and for cream sep-

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aration and butter and cheese making. The department of veterinary science owns a collection illustrating materia medica, a collection of pathological specimens illustrating special abnormal bony development, and a *papier-maché* model of a horse, capable of dissection, and showing every important detail of structure. In addition are levels, lanterns, microscopes, and cameras, an extensive list of agricultural journals, a complete file of experiment station bulletins from all the states, and an excellent assortment of standard reference books, including nearly all the pedigree registers published.

DESCRIPTION OF DEPARTMENTS

AGRONOMY

The department of agronomy, with a staff of six, gives instruction in those subjects which relate especially to the field and its affairs, as drainage, farm machinery, field crops, the physics and bacteriology of the soil, manures, rotation and fertility, the history of agriculture, farm management, and comparative agriculture. The object is to acquaint the student with the facts and principles connected with the improvement of soils, the preservation of fertility, the nature of the various crops and the conditions governing their successful and economic production, and with the development of agriculture. This object is attained by the application of the laboratory methods of study to these subjects, supplemented with lectures, class room work, and a free use of standard literature.

ANIMAL HUSBANDRY

In this department three instructors give courses covering the separate study of sheep, swine, beef and dairy cattle, and their products; heavy and light horses, with their care and training; the management of farm herds, and the principles and practices of feeding and of breeding. The purpose is to familiarize the student with animals, first as to their fitness for specific purposes; second, as to their care and

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management; third, as to their improvement by breeding; and fourth, as to the commercial production of animal products. This familiarity is gained by an exhaustive study of the uses of domestic animals; the history and character of their breeds, together with extensive practice in stock judging, supplemented by a careful study of the methods of successful stockmen and of the known principles of feeding and of organic evolution.

DAIRY HUSBANDRY

Three instructors give extended courses in the study of milk and its economic production; the characteristics of the dairy cow and the management of dairy farms; the separation of cream, and the making of butter and cheese; factory management; dairy bacteriology; city milk supply and the standardizing and pasteurizing of milk and cream.

HORTICULTURE

Five instructors conduct courses in orchard management, small fruit culture and vegetable gardening, nut culture, floriculture, landscape gardening, and forestry; in fruit propagation, greenhouse management, and the evolution of cultivated plants; and in commercial horticulture and nursery management. The purpose is to acquaint the student with the principles and practice of fruit raising and vegetable gardening, both for home and market, and with successful methods of combating insect and fungous enemies. The sense of the beautiful is cultivated and given expression in floriculture and landscape gardening, to the end that more of nature's beauty shall pervade the home and its surroundings. The student studies plant life, and learns how to propagate, cultivate, and improve the forms that have been found useful or ornamental in the way of vegetables, fruits, flowers, and trees. As in other departments, he follows the methods of the laboratory in that he learns to do by doing, supplementing everything with numerous references to standard literature.

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HOUSEHOLD SCIENCE

The department of household science stands for a recognition of the importance of adequate and proper training for home duties. It aims to provide opportunity for a scientific study of some of the problems of the management of the house, including the distribution of income according to recognized business principles.

The courses of instruction given in the department are planned to meet the needs of two classes of students, viz.: (a) those students who specialize in other lines of work, but desire a knowledge of the general principles and facts of household science. (b) Those students who wish to make a specialty of household science by a comprehensive study of the affairs of the home, together with the arts and sciences whose applications are directly connected with the management and care of the home.

The department occupies the entire second floor of the north wing of the agricultural building, and is supplied with laboratories, apparatus, and illustrative material, such as charts, specimens of various kinds of building material, and exhibits illustrating the chemical composition and products obtained in the manufacture of certain foods.

The students have access also to the museum of the architectural department, as well as the benefit of close association with the art department.

VETERINARY SCIENCE

Courses are offered in veterinary anatomy and physiology, in veterinary materia medica, and in the theory and practice of veterinary medicine and surgery. The object is to acquaint the student with the structure and activities of animals in health, the characteristic symptoms of disease, and the materials and methods of successful treatment. He therefore makes careful study of the structure of domestic animals and of the nature of their derangements and the characteristic action of remedial agents. The weekly clinic gives opportunity for practical experience in the diagnosis and treatment of the more ordinary diseases.

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COURSES OFFERED

The College of Agriculture offers the following courses, leading to the degree of Bachelor of Science:

1. Agricultural Course.
2. General Course.

AGRICULTURAL COURSE

This course is designed to fit young men for the business and relations of country life. Students may graduate upon completing the studies of the prescribed list, etc., etc.

CLASSIFICATION OF SUBJECTS

PRESCRIBED*

Agronomy 2, 6, 9, 12; 15 hours.
†Animal Husbandry 7; 2½ hours.
Botany 1 or 11; 5 hours.
‡Chemistry 1, 3b, 4, 13; 15 hours.
†Dairy Husbandry 10; 2½ hours.
Economics 2; 2 hours.
Geology 12; 5 hours.
Horticulture 1, 10; 8 hours.
Military 1, 2; 5 hours.
Physical Training 1, 3 or 7, 9; 2½ or 3 hours.
Rhetoric 2; 6 hours.
Thremmatology 1; 5 hours.
Zoölogy 10; 5 hours.

ELECTIVE

List A

Animal Husbandry 1, 2, 4, 5, 11, 12, 17, 18, 19; 19 hours.
Dairy Husbandry 2; 2½ hours.

List B

Botany 2; 5 hours.
Zoölogy 2; 5 hours.

* Students not offering six credits in foreign language for admission will take two years of foreign language in the University as a condition of graduation.

See also note referring to students specializing in household science given under "Requirements for Graduation."

† See Thremmatology and elective List A.

‡ Chemistry 3 may be taken in lieu of Chemistry 3b and 4.

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List C

English 1, 16; 3 to 8 hours.
Rhetoric 3; 4 to 8 hours.

List D

Agronomy 1; 3 to 5; 7, 8, 10, 11, 13 to 18; 1 to 60½ hours.
Animal Husbandry 1 to 6, 9; 2 to 28 hours.
Botany 7; 3 hours.
Dairy Husbandry 1 to 9, 11, 12; 2½ to 40 hours.
Horticulture 2 to 9, 11 to 19; 2 to 72 hours.
Veterinary Science 1 to 4; 2 to 25 hours.

REQUIREMENTS FOR GRADUATION

Students will be graduated from the courses in Agriculture with the degree of bachelor of science upon completing the following work:

1. The studies of the prescribed list.

2. Sufficient electives to make a final total of 130 semester hours, of which not less than four and one-half shall be chosen from elective list A, not less than five from elective list B, not less than three from elective list C, not less than twenty from elective list D, and the remainder from any subjects offered in the University, which the student is prepared to take.

3. An acceptable thesis upon an approved course of investigation, for which from five to ten semester hours will be allowed, according to the nature of the subject. Credit for this will be included in the amount to be earned by elective work.

Students specializing in household science may substitute courses in that department in place of courses prescribed in agronomy, animal husbandry, dairy husbandry, and horticulture, and may elect sufficient additional subjects for graduation from any subjects taught in the University, subject to the approval of the Dean of this College.

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COURSE OF INSTRUCTION

Required for the degree of B.S. in Agriculture

The following outline shows the most favorable time and order in which the prescribed studies of the course can be taken, and, though it is not insisted that the scheme be followed, it is strongly recommended.

First Year

1. Chemistry 1 (3, 4; Tu., Th., S.; 5; M., W., F.); Military 2; Physical Training 1, 3 or 7, 9; Rhetoric 2 (3; M., W., F.); Zoölogy 10 (1, 2); Elective in Agriculture.

2. Agronomy 2, 6 (1, 2); Chemistry 3b (3, 4); 4 (3, 4); Military 1, 2; Physical Training 1 or 7; Rhetoric 2 (8; M., W., F.); Botany 1 (6, 7).

Second Year

1. Chemistry 13 (3, 4); Horticulture 1 (6, 7); Military 2; Rhetoric or English; Elective in Agriculture.

2. Geology 12 (3, 4); Military 2; Rhetoric or English; Elective in Agriculture.

Third Year

1. Agronomy 9 (1, 2); Dairy Husbandry 10 (3; M., W., F.); Botany 2 (6, 7), or Zoölogy 2 (Lec., 4; Tu., Th., arrange Lab.) if elected; Electives.

2. Agronomy 12 (1, 2); Economics 2 (7; M., W.,); Horticulture 10 (4; M., W., F.); Electives.

Fourth Year

1. Animal Husbandry 7, first half (3); Thremmatology 1 (4); Electives.

2. Electives, including Thesis.

GENERAL COURSE

This course is designed to provide an education in those branches of learning that especially serve the interests of women. It has in view particularly those young women who wish to specialize in household science. This, therefore, is to be regarded as the core of the work of the course.

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That subject is treated as one of a strictly scientific character, and the training in it, while not losing sight of the practical aspects, is therefore severely scientific. In connection with the work in household science, and as a necessary preparation to it, the student must take several courses in pure science.

Although the main work is, therefore, scientific and technical, the importance of an artistic and literary training for home life is not lost sight of, and ample opportunity is given for a study of subjects of that character. Indeed, so important are they deemed that a considerable amount of art and design, English, history, and foreign language is required of students in the course. Opportunity is given, moreover, for increasing the amount of liberal, scientific or technical subjects by leaving the way open for a certain number of electives. Of the one hundred and thirty hours required for graduation, ninety-four are provided for in the prescribed list and the restricted electives of List A. The other hours of credit necessary for graduation may be taken, subject to the approval of the Dean of the College, from any courses offered in the University. It is desirable, however, that students should not scatter their work too much, and they are advised, therefore, to choose, to a certain extent at least, electives which are in close correlation with the subjects in the list of prescribed, or of restricted elective, work. Holders of scholarships in household science are expected to take the course as laid out here. Variations from it can be made only by special permission of the Council of Administration on recommendation of the faculty of the college.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Art and Design 1, 16, 19; 8 hours.
Botany 11; 5 hours.
Chemistry 1, 3b, 4; 10 hours.

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English 1, 2; 10 hours.
History 1; 6 hours.
Household Science 1, 2, 3, 6; 10 hours.
Library 13; 1 hour.
Physiology 4; 5 hours.
Physical Training 7, 9; 3 hours.
Rhetoric 2; 6 hours.

In addition to the above, students will elect as follows:
Botany or Zoölogy, 5 hours.
English or Rhetoric, 5 hours.
Foreign Language, 20 hours.
*Elective List A., a minimum of 4 hours.

ELECTIVE

List A

Architecture 6; 4 hours.
Horticulture 10; 3 hours.
Household Science 5, 7; 4 hours.
Economics 1b, 17; 4 hours.
Physics 2; 5 hours.

COURSE OF INSTRUCTION

Required for the degree of B.S. in General Course

First Year

1. Botany 11; Chemistry 1; Household Science 2; Rhetoric 2; Physical Training 7, 9.

2. Chemistry 3b, 4; Household Science 1; Rhetoric 2; Art and Design 1; Physical Training 7, 9.

Second Year

1. English 1; Art and Design 16; Physiology 6; Household Science 6.

2. Household Science 3; English 2; Foreign Language.

* If Physics has not been offered for entrance, its equivalent should be elected.

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Third Year

1. Art and Design 19; History 1; Library 13; Biology.
2. Physiology 4; History 1.

Fourth Year

See elective list and requirements for graduation.

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GRADUATE SCHOOL

ORGANIZATION

The Council of Administration of the University is in charge of the Graduate School, and the executive officer, to whom communications should be addressed, is the Dean of the Graduate School.

ADMISSION AND REGISTRATION

Graduates of the University of Illinois, and of other colleges and universities of approved standing, may be admitted to membership in the Graduate School upon presentation of their credentials. Other persons suitably qualified may gain admission by special vote of the Council of Administration upon such conditions as may be imposed in each case. Candidates for admission may secure application blanks from the Dean or from the Registrar of the University, and these, properly filled out, should be filed, together with such documentary matter as may be presented, showing qualifications for membership in the school, with the former officer. This should be done not later than the time set for registration in September. Admission may be granted at other times, but the time limit required for degrees counts from the date of the certificate of membership.

With the exceptions named below, all members of the Graduate School are required to be in regular attendance at the University, and to do all the work for which they are registered in the departments to which such work belongs. In case of absence on leave, or when absence is necessary to carry on investigations included in approved

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courses of study, the requirement of continuous residence may be modified by the Council of Administration.

Graduates of this University may be admitted to non-resident membership in the Graduate School, as candidates for second, or masters', degrees; and all members of the School who have completed the residence period required for advanced degrees may register as non-residents while completing the work required for such degrees.

Members of the Graduate School register with the Dean during the registration period. This, in the case of non-residents may be done by letter, stating the work to be undertaken during the year.

STUDIES AND EXAMINATIONS

As far as can be indicated by a statement of time, full work for a graduate student consists in the use of forty-five hours a week in the lecture rooms, laboratories, etc., and in private study. Assignments of work are made upon this basis; but great variations naturally result from the subject-matter in hand, and from the abilities of individuals. Each student must select one principal line of study, called his major subject, and upon this major subject at least one-half of his work must be done; and any greater proportion of his time, up to the whole of it, may be thus devoted if proper approval is had. When work upon the selected major subject is not arranged to require all of the student's attention, he must choose one or two minor subjects, as may be necessary to complete a full course of study. Usually, at least one minor subject should be taken. Not more than two may be taken at the same time.

The major study must be approved as graduate work for this University. The minor subjects may, under approval, be chosen from the offerings to graduates; or, except in the College of Engineering, from undergraduate courses of advanced grade. But all candidates for advanced degrees must direct their selection toward some well-defined

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end, determined for the most part by the character and purpose of the major study.

In the College of Engineering the major line of study consists of some combination of the courses enumerated under the heading of "Courses for Graduates" given with each departmental subject; thus one candidate for an advanced degree may have assigned him as his major subject Architecture 101, 103, and 107; another, Mechanical Engineering 104 and 107; and the extent to which each of the enumerated subjects is to be pursued may be indicated in credit hours upon the application blanks. In architectural and engineering subjects, at least the major line of study, and not less than two-thirds of the entire work, must be taken from the lists marked "primary",* and any remaining amount to complete a full course may be taken from those designated "secondary," under the same general head with the primary list.

All courses of study leading to degrees in the Graduate School are subject to approval, first, by the head of the department of the University in which the major subject for each student belongs; second, by the Dean of the College including such department; and, third, by the Dean of the Graduate School. The signatures of the heads of departments in which chosen minor subjects belong must also be obtained before the list reaches the Dean of the Graduate School. The lists of studies, as finally approved, are deposited with the Registrar of the University. No changes may subsequently be made except under the same line of approvals, but extension of time may be arranged with the professors concerned and with the Dean of the Graduate School.

Examinations are required in all subjects, and reports upon these are made to the Registrar of the University. Graduate students in undergraduate classes are examined with these classes.

* See the courses for graduates in Architecture and other engineering courses in the "General Description of Courses," p. 169 ff.

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The head of the department in which the student does his major work is charged with the direction and supervision of such major work, and, in a general way, with the supervision of the student's entire course of study. He fixes the time and method of all examinations not otherwise provided for, sees that they are properly conducted, and reports results to the Registrar. It is his duty also to keep the Dean of the Graduate School informed concerning all matters affecting the interests of the student, and of the School in connection therewith.

DEGREES AND FELLOWSHIPS

A full statement regarding the degrees conferred by the University may be found on later pages of this catalog, and in the same connection an account of fellowships. (See pp.283-288.)

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STATE LIBRARY SCHOOL

AIMS AND SCOPE

The *Library School,* which had been conducted at Armour Institute of Technology, Chicago, from September, 1893, was transferred to the University of Illinois in September, 1897.

The scope of the work of the School has been broadened since the time of the transfer. There is now offered a four years' course of study, leading to the degree of bachelor of library science. Two years of the course are devoted to general university studies, and this is the smallest preparation which will be accepted for entrance upon the technical work. Students are encouraged to complete a four years' college course before applying for admission. This high standard is necessary because conditions in library work are rapidly changing. It is not enough to have a knowledge of books, nor is it enough to have a knowledge of methods. One or two years of training will not take the place of years of experience, but they will make the student more adaptable and general library service more intelligent.

Instruction is given in each department of library administration. Stress is laid upon simplicity and economy, although elaborate methods are taught to enable students to work in large libraries where bibliographic exactness is required. The higher side of library work is emphasized throughout the course, and students are taught their responsibility to the schools, to the clubs, and to the people as organized bodies and as individuals.

It is the purpose of the University to graduate librarians who are not only trained, but educated; librarians who are

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not only equipped in technical details, but filled with an appreciation of their high calling to furnish "the best reading to the greatest number at the least cost."

METHODS OF INSTRUCTION

There are so few text-books on library economy that instruction is given almost altogether by lecture and laboratory methods. References to books and periodicals are given for collateral reading, and individual research is encouraged from the start. Lectures are illustrated by the collections of forms and fittings, and each student is expected to do a certain amount of practical work in the University library each day. Before completing the course, each student must have had actual experience in every department of the library. Class room work is tested by problems, and examinations take the form of problems wherever practicable.

PUBLIC DOCUMENTS

This is the only Library School which gives an extended course on the use and cataloging of public documents. This knowledge is necessary in small as well as large libraries, in public as well as college libraries.

LOCAL LIBRARY COOPERATION

The Library of the University of Illinois and the Champaign Public Library have systematic plans for coöperation through the Library School, in the interests of the clubs and the schools. Each woman's club in Champaign and Urbana sends its program for the year to the Library School, where a reference list is made on each subject, specifying in which library the material is to be found. A copy of each list is posted in each library. The students also make lists for the various grades of the public schools. The branch of the Champaign Public Library is entirely in charge of Library School seniors. Seniors also spend a definite time

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in the children's room of the Champaign Public Library, where they develop their own ideas as to advertising methods, picture bulletins, decoration, reading lists, etc. Each student gives a talk to the children upon some timely topic, and invitations to these talks are posted in the schools. All special holidays are observed by bulletins and reading lists, and birthdays of distinguished people are called to the children's attention.

EQUIPMENT

The most valuable equipment is the working library of the University.

The Library School has the complete collection of manuscript notes and problems which have been prepared since the School opened in 1893. As text-books are so few, this collection is invaluable. A collection of library reports and catalogs and of mounted samples, showing methods of administration in all departments, is carefully classified and is continually increasing. A collection of card catalogs of various forms has been made, including the book forms from Leyden, Holland; Cassel, Germany; and Florence, Italy; and the modern forms approved by the American Library Association. Other forms are represented by photographs.

The School has a collection of printed blanks and forms illustrating methods of administration in different types of libraries, many labor-saving devices, and samples of fittings for all departments. The School received much material from the World's Columbian Exposition in 1893, and is constantly receiving additions from librarians and manufacturers throughout the country.

A collection of cataloging rules and of classification systems is making for comparative study. A number of devices and patents, such as temporary binders, pamphlet cases, newspaper files, etc., have been contributed by inventors and manufacturers.

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REQUIREMENTS FOR GRADUATION

Credit for 65 hours, including the prescribed military and physical training, in addition to two years' prescribed technical library work, is required for graduation. The technical work is of junior and senior grade, and must be taken at the University, but the work of the first two years may be taken at any college from which credits are accepted by transfer.

COURSE OF INSTRUCTION

Required for the degree of B.L.S.

The work of the first two years may consist of any of the courses offered in the University, the requirements for which students can meet. The prescribed work of the first two years in the College of Literature and Arts must be included in the programs of students who matriculate in that College.

Third Year

1. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); Elementary Apprentice Work (Lib. 4).

2. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); Elementary Apprentice Work (Lib. 4).

Fourth Year

1. Selection of Books (Lib. 3); Advanced Library Economy (Lib. 5); Public Documents (Lib. 13); Bibliography (Lib. 6); History of Libraries (Lib. 7); Advanced Apprentice Work (Lib. 10); Thesis (Lib. 11).

2. Selection of Books (Lib. 3); Advanced Library Economy (Lib. 5); Bibliography (Lib. 6); Advanced Reference (Lib. 8); Book-making (Lib. 9); Advanced Apprentice Work (Lib. 10); Thesis (Lib. 11).

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SCHOOL OF MUSIC

AIMS AND SCOPE

The School of Music offers courses leading to the degree of bachelor of music.

The courses are widely varied. Although regular courses are laid out, students may spend an indefinite amount of time in the study of an instrument or of the voice.

The course in the history of music, as well as the work in the University Orchestra and the University Choral Society, may be taken by regular students in other departments.

A course of artists' concerts is given each season under the management of the University Choral Society. In these concerts, to which an admission fee is charged, only artists of the best reputation appear.

The instructors in the School of Music give recitals and lectures on musical subjects during the year.

REQUIREMENTS FOR GRADUATION

Credit for 130 semester hours, including military and physical training credit, together with an acceptable thesis, is required for graduation with the degree of bachelor of music. The thesis required for graduation must be on a topic related to music.

Students who are not working for the degree in music may receive a certificate of work done by complying with the following conditions:

Students of the piano, organ, or violin must complete the entire course specified for these instruments; must also

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complete the work offered in harmony, covering thirteen hours, and must take one year's work (ten hours) in either German or French.

Students of the voice must complete the entire course offered in vocal work, the thirteen hours' work in harmony, and two years' work on the piano, besides taking one year (eight hours) of German or French, and one year (six hours) of Italian.

Special and preparatory music students are required, in addition to their practical work in music, to pursue other lines of study sufficient to fill in their spare time.

Students enrolled in the department of music only, pay no semester fees, but must pay the music fees. (See p. 302.)

Classes in ear-training meet twice each week. The fundamental principles of musical notation are studied thoroughly, and the ear is trained to recognize intervals, chords, etc., so that the student may eventually think music. Music students are required to attend these classes.

The sight singing classes meet twice each week. The object is to train students to read at sight music of ordinary difficulty, and to prepare them to teach music in the public schools. This work is required of music students and is open to any University students who desire to take it.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Music 1; 2 hours.
Music 2a; 13 hours.
Music 2b; 3 hours.
Music 2c; 3 hours.
Music 2d; 3 hours.
Music 3b, 4b, 5b or 6b; 56 hours.
French or German; 8 hours.
Italian 1; 6 hours.
Mathematics 4; 2 hours.
Military 1, 2; 5 hours.

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Physical Training—
Men, 1, 3; 2 hours.
Women, 7, 9; 3 hours.
Physics 2; 5 hours.
Rhetoric 1; 6 hours.

The remaining hours of credit may be obtained in electives, offered in the College of Literature and Arts, choice of subjects being left to individual students.

MUSICAL ORGANIZATIONS

The University Glee Club is an organization for men. Membership is decided by competition and is limited to sixteen in number. The club meets twice a week for rehearsal.

The Ladies' Glee Club is an organization for the young ladies of the University, and is in charge of the head of the vocal department.

The Mandolin and Guitar Club is open to young men who play these instruments. Membership is decided by competition, and the club is associated with the Glee Club in its concerts.

The Military Band is conducted by the director of the School of Music. It furnishes music for important University occasions and appears at regimental drill of the military department, besides giving several concerts during the year. Membership is limited to thirty in number and is decided by examination.

The University Orchestra meets for a two hours' rehearsal once a week, and is open to all students who play any orchestral instrument ordinarily well.

The University Choral Society is conducted by the head of the vocal department of the School of Music, and meets once a week for rehearsal of choral works. Students, also singers not connected with the University, are admitted to membership on the payment of a small fee.

A small hand book is published giving fuller information in regard to the music courses. It will be mailed upon application.

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COLLEGE OF LAW

REQUIREMENTS FOR ADMISSION

1. All applicants for admission to the College of Law must be at least 18 years of age and of unquestioned character.

2. Graduates of colleges and of scientific schools of approved standing are admitted upon diploma or certificate, without examination.

3. Graduates from any approved high school in the state are admitted in the same way.

In the absence of proper certificates the usual examinations for admission to the freshman class of the University (p. 62) are required.

ADVANCED STANDING

The following classes of persons will be admitted to advanced standing:

1. Persons who produce from another law school, in good standing, certificates of having satisfactorily pursued courses in law, included in the following schedule, and of having received credit therein, *provided* that the time spent on such courses is equivalent to the time spent on the same courses in this College. Otherwise, an examination on such courses, given by the instructors in this College, must be satisfactorily passed.

2. Persons who have studied law privately, or in an attorney's office, and pass examinations prescribed by the faculty of the College.

3. Members of the bar of this state, who will be admitted to the third year class without examination, as candidates for the degree of LL.B.

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SPECIAL STUDENTS

Students who do not desire to be candidates for a degree may take one or more courses as special students, upon approval of the faculty of the College, under regulations prescribed by the University (p. 64). Such students will receive credit for work satisfactorily done, and may become candidates for graduation at any time by meeting the requirements of the College.

METHODS OF INSTRUCTION

The methods of instruction used in this College are based largely upon the study of cases. Text-books are used to some extent, and lectures are occasionally resorted to, but the study of the case is regarded as the chief means to the attainment of legal knowledge and proficiency.

LIBRARY AND MOOT COURT

The library consists of the leading text-books on all subjects: Supreme and Appellate Court Reports of Illinois; United States Supreme Court reports; New York, Ohio, Massachusetts, Iowa, Wisconsin, Michigan, and Indiana Reports; American Decisions, American Reports, and American State Reports; the current volumes of the West Company Reporter System, and the leading legal periodicals. Additions of reports and text-books will be made during the coming year.

The Moot Court is held once a week for the purpose of familiarizing the student with legal procedure. It is presided over by Judge Harker, the other officers being elected by the law students from their own body. All second and third year students are required to be present and to perform such duties as may be assigned them.

LEGAL STUDY AND UNIVERSITY WORK

The Council of Administration will, upon application, in proper cases, apply credits earned in the College of Law upon other University courses.

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Students matriculating in the College of Law may take any of the following courses in the College of Literature and Arts, subject to the approval of the Dean of the College of Law and of the professors concerned: economics and social science, and history. By special arrangement other work in the College of Literature and Arts may also be taken.

COURSE OF INSTRUCTION

Required for the degree of LL.B.

First Year

1. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Common Law Pleading (Law 4); Criminal Law (Law 5).

2. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Common Law Pleading (Law 4); Criminal Law and Procedure (Law 5); Personal Property (Law 6).

Second Year

1. Evidence (Law 8); Real Property (Law 10a); Agency (Law 11); Equity (Law 12); Damages (Law 13); Carriers (Law 14); Moot Court (Law 26).

2. Domestic Relations (Law 7); Evidence (Law 8); Sales (Law 9); Agency (Law 11); Equity (Law 12); Wills (Law 18); Moot Court (Law 26).

Third Year

1. Real Property (Law 10b); Bills and Notes (Law 15); Trusts (Law 16); Partnership (Law 29); Constitutional Law (Law 22); Corporations, private and municipal (Law 17 and 24); Moot Court (Law 26).

2. Corporations, private and municipal (Law 17 and 24); Equity Pleading (Law 20); Suretyship (Law 21); Constitutional Law (Law 22); Moot Court (Law 26).

In addition to the foregoing course of instruction, required for the degree of LL.B., the following subjects are offered as electives in the College of Law:

Elements of Jurisprudence (Law A); Practical Conveyancing (Law 25); Roman Law (Law 27); Mortgages

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(Law 29); Conflict of Laws (Law 31); Quasi-Contracts (Law 32); International Law (Law 23); Insurance (Law 28); Bankruptcy (Law 30).

REQUIREMENTS FOR GRADUATION

The requirements for graduation with the degree of bachelor of laws are seventy semester hours of work. A "semester hour," as here used, means one hour per week of class room work for one-half of a year. The degree is conferred upon the completion of the course set forth above.

ADMISSION TO THE BAR

Under the rules of the Supreme Court of Illinois, candidates for admission to the bar of this state must have had a high school education or its equivalent, must have completed a three years' course of study in a law school or law office, and must then pass an examination to be given by the State Board of Bar Examiners.

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THE COLLEGE OF MEDICINE

(For Faculty of the College of Medicine, see page 19.)

HISTORY

The College of Medicine, the College of Physicians and Surgeons, is located on the corner of Congress and Honore Streets, Chicago, in the heart of the medical quarter of the city. It was founded in the year 1882 by a number of representative physicians and surgeons. In 1892 the College had a thorough organization, and erected a commodious laboratory building, the first building exclusively for laboratory purposes erected by any medical school in the West. Since that time it has grown with steadiness and rapidity. The attendance in 1895-96 was 235; in 1896-97, 308; in 1897-98, 408; in 1898-99, 514, 35 of the students being women; in 1899-1900, 579, 43 being women, and in 1900-1901, 676, 49 being women. It became the Medical Department of the University in April, 1897.

Chicago is already the center of medical study in the United States. Since the winter of 1897-98 it has contained a larger number of medical students than any other city in the western hemisphere. These students are distributed among fourteen medical colleges, of which the College of Physicians and Surgeons is the second, as to the size of its classes, and is not outranked by any in respect to its facilities, or the scope and thoroughness of its curriculum, or in regard to the place it occupies in the esteem of the medical profession.

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REQUIREMENTS FOR ADMISSION, SESSION OF 1902-1903

First, a certificate of good moral character from two reputable physicians.

Second, a diploma of a high school or academy accredited by the University of Illinois, or of a similarly accredited school of another university, whose entrance requirements are equivalent to the entrance requirements of the University of Illinois.

Or, third, entrance examination covering the following subjects:

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of Rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each, to test his ability to use the English language.

3. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next year are as follows:

George Eliot's Silas Marner; Pope's Iliad, Books I., VI., XXII., and XXIV.; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Cooper's Last of the Mohicans; Tennyson's Princess; Shakespere's The Merchant of Venice; Scott's Ivanhoe; Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

(b) In addition to the above, the candidate will be required to present a brief outline of American Literature. Hawthorne and Lemmon's Outline of American Literature, or an equivalent.

4. LATIN.—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories; also four books of Cæsar's Gallic

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War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

5. GEOMETRY.—Plane Geometry, as given in Wells's or Wentworth's Geometry, or an equivalent.

6. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The History of Greece and Rome.

7. PHYSICS.—The elements of physical science as presented in such text-books as Appleton's School Physics, or Avery's Elements of Natural Philosophy, or Carhart and Chute's Elements of Physics, or Gage's Elements of Physics.

The entrance examinations are conducted in writing by a committee outside of the Faculty of the College of Medicine, appointed by the President of the University, and are held at the medical college at 10 a. m. on the week day next preceding the opening of each term.

ADVANCED STANDING*

Students who have completed a "medical preparatory course," equivalent to that given by the University of Illinois, and graduates of reputable schools of pharmacy, veterinary science, or dental surgery, *whose course extends over two years,* may enter the sophomore class and complete their studies upon three years of attendance, provided they fulfill all other requirements for admission and graduation. *Students thus advanced may not complain of any conflict of hours, nor absent themselves from any part of the lower conflicting course;* but they may make up deficiencies in the work of the winter session during the spring course in such branches as are represented in that course.

COURSE OF STUDY*

The curriculum required for graduation extends over four years. During the first two years the work is confined to the sciences fundamental to practical medicine. During

* For Combined Undergraduate and Medical course of six years, leading to the degree of B. S. and M. D., see p. 115.

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the freshman year this consists of work in histology, biology, embryology, chemistry, materia medica, human anatomy, and physiology. During the sophomore year the study of physiology, chemistry, and human anatomy is continued, and in addition the student takes up pathology, and bacteriology. With the junior year the study of the practical branches of medicine is begun. The entire subjects of medicine, surgery, and obstetrics are covered in recitation courses. The student also begins clinical and bedside work, and receives instruction in medical and surgical specialties. More advanced work along the same lines is continued in the senior year. Medicine, surgery, and obstetrics are gone over again, this time in lecture courses and with greater minuteness of detail and profuseness of illustration. The various special departments of medicine and surgery are presented with like thoroughness, and a large part of the student's time is given to clinical study.

METHOD OF INSTRUCTION

During the first two years the time of the students is about equally divided between laboratory and didactic work. The plan of instruction in the College contemplates the freest use of laboratory teaching. Wherever possible practical laboratory work is made to supplement didactic teaching. Students are taught not only by prepared specimens, but they are required to prepare their own specimens from the original material, and are thus made familiar with technical methods, so that they become able independently to carry a technical investigation through all of its stages.

Beginning with the fall term of 1901, the College made a considerable departure from the usual freshman and sophomore curricula, by providing for freshman and sophomore students a course of elementary clinics in medicine and surgery. A tendency in medical education for many years has been to eliminate all practical work from the freshman and sophomore years. This has served to make these years

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exclusively scientific in their subject matter and has removed the students from all contact either with disease or its consideration. The object of the establishment of the elementary clinics was to see if by such clinics the appetite of the student for his scientific work might not be increased, and the quality of that work improved. During the past year two such elementary clinics have been given each week to the freshmen, and two each week to the sophomores. These clinics have been of a character not requiring for their comprehension technical medical knowledge. The success of these clinics has far surpassed the expectations of the faculty. They have served to impress upon students the reasons for their scientific work and have given a stimulus to the work in purely scientific departments, which leaves no room for doubt as to the wisdom of the innovation. This is believed to be one of the most important modifications of the curriculum that has been made for many years.

During the junior and senior years the time is about equally divided between clinical and didactic work, with, perhaps, a preponderance of clinical instruction in the senior year. This clinical instruction is carried on, as far as possible, with the student at the patient's side. Attendance upon clinics is required in the same way as upon lectures, and the students are graded upon, and given credit for, their work in the clinical courses just as they are for the work in the didactic and laboratory courses. The students of the junior and senior years are divided into classes for dispensary and bedside work, and these classes have instruction in rotation in the various departments of practical medicine and surgery.

BUILDINGS AND EQUIPMENT

In the summer of 1901 the College purchased from the Board of Education of Chicago the West Division High School property, situated adjacent to the original college building. This purchase, which represents, including alter-

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ations, an expenditure of over a quarter of a million of dollars, gives the College three-fourths of a city block lying between Harrison and Congress, and Honore and Lincoln streets, and a group of buildings which, for the purpose of medical education, are unsurpassed in the United States, and equalled in only a few instances in the world. The new College building is a brick and stone structure two hundred feet long by one hundred and ten feet deep, and five stories high. It fronts on four streets and stands on a lot entirely adequate in size for such a building, so that it is freely supplied with air and light. The building contains three large lecture rooms with a seating capacity of two hundred each, a clinical amphitheater modeled on the most modern plans for perfect asepsis, with a seating capacity of over three hundred; an assembly hall with a seating capacity of twelve hundred, and many recitation rooms seating from thirty to one hundred and fifty students each. It also contains special laboratories for physiology, chemistry, pathology, bacteriology, biology, materia medica, and microscopical or chemical diagnosis, each capable of accommodating from fifty to two hundred students at a time. The general equipment of the building and the special equipment of the laboratories are in keeping with the size and character of the building, and may challenge comparison with those of any other school in the country. The assembly hall is so constructed that it may be converted into a gymnasium. It is provided with all the apparatus of a well equipped gymnasium, including numerous shower baths, and gives the College a gymnasium which is fully equal to those possessed by the better class of undergraduate colleges. The use of the gymnasium is free to all the students of the College, and a competent instructor in physical training is employed.

The original college building has been remodeled during the past year and is now occupied by the School of Dentistry which the College has established, and by the laboratories of anatomy.

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DISPENSARY

The dispensary, which has been conducted for many years in the original college building, has been transferred to the ground floor of the new building, and this floor has been remodeled for its use. There are spacious, well-lighted, clean waiting rooms for the patients, and private rooms for the various departments, which are large enough to accommodate easily the dispensary classes. These rooms in their arrangement and equipment equal physicians' private offices.

HOSPITAL FACILITIES

Members of the faculty and other friends of the College purchased, a few years ago, the adjoining building of the Post-Graduate Medical School and converted it into a hospital of 125 beds. It is a large, handsome structure, 50x100 feet, five stories high, of modern construction, and completely furnished. It is connected with the college amphitheater by a corridor and its clinical resources are thus made easily available for the instruction of students. An entire floor of this hospital is reserved as a ward for patients who are maintained by the College for the instruction exclusively of its students. It is designed to increase these hospital resources as necessity indicates. Directly opposite the College is Cook County Hospital, the only free hospital in Chicago. It contains constantly almost a thousand patients, and supplies a quantity and variety of clinical material which no private institution can command. In the amphitheater of the hospital much of the clinical instruction of the College is given and its wards furnish most of the bedside instruction. In addition to the foregoing resources members of the faculty are connected with various other hospitals of the city and freely draw upon them for the benefit of students.

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REQUIREMENTS FOR GRADUATION

First, a certificate of good moral character by two reputable physicians.

Second, satisfactory deportment during attendance at college.

Third, satisfactory evidence that the candidate is twenty-one years of age.

Fourth, proof that the candidate has attended at least four full courses of instruction in four separate years, the last of which shall have been in this institution.

Fifth, certificate that the candidate has pursued the study of practical anatomy during two years and to the extent of having dissected at least the lateral half of the human body.

Sixth, certificate that the candidate has attended two full courses of dispensary and hospital clinics.

Seventh, payment of all the college fees in full.

LIBRARY

The College has for several years had a reference library of several thousand volumes. This library owes its foundation to the gift to the College of the collection of books of the late Prof. A. Reeves Jackson. It has been added to largely from time to time by contributions from members of the faculty and other friends of the College. Its usefulness has recently been greatly augmented by gifts from the Dean of the Faculty, in consideration of which, and of provision made for its permanent maintenance and growth, it has been named by the faculty the Quine Library. It already contains practically every book of reference required by medical students, and the important medical periodicals. In point of size and completeness it is the second medical library in Chicago, the Newberry Library being the first, and in attendance of readers it is the first. It is in charge of a trained librarian, and is open daily from nine to five for the use of students.

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More detailed information concerning the College may be obtained by application to the Registrar of the University, Urbana, Ill., or to the Secretary of the College of Medicine, Dr. Frank B. Earle, Honore and Congress Streets, Chicago.

THE SCHOOL OF DENTISTRY

(For Instructors of School of Dentistry, see page 25.)

In 1901 the University, through the College of Physicians and Surgeons, acquired the property of the Illinois School of Dentistry, in Chicago, and opened it in the fall of the same year as the School of Dentistry of the University of Illinois, a department of the College of Medicine. The School occupies the building on the corner of Harrison and Honore streets, formerly occupied by the College of Medicine. The building is a five-story stone structure, furnished throughout with new and modern equipment, commodious, and in every way suitable for its purposes. It is in the center of the medical and dental district, being directly opposite the Cook County Hospital, and therefore is well located as a clinical field for dental instruction.

EQUIPMENT

The main building of the School contains three well-lighted and well-ventilated lecture rooms in the form of amphitheaters, the smallest of which has a seating capacity of two hundred. The laboratories occupy four floors of the building. Three of them are 25x100 feet each, and one is 25x156 feet. Each laboratory accommodates 120 students. Adjoining the laboratories are preparation rooms for the use of demonstrators and professors. The laboratories are supplied with microscopes, immersion lenses, microtomes, and new projection apparatus, a complete X-ray apparatus, and all other necessary equipment. The physiological laboratory is especially well equipped, and the clinical operating room, chemical and histological laboratories, and dissecting rooms, are all complete.

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REQUIREMENTS FOR ADMISSION

Extract from "Code of Rules," in effect session 1899-1900, National Association Dental Faculties:

"The minimum preliminary educational requirements for the session of 1900-1901 of colleges, members of the National Association of Dental Faculties, shall be a certificate of entrance into the second year of a high school, or its equivalent, the preliminary examination to be placed in the hands of any State Superintendent of Public Instruction."

Students desiring to matriculate should bring and present to the School any diplomas, literary or otherwise, which they possess.

The rules and regulations passed by the National Association of Dental Faculties for the government of the Colleges of the Association have been adopted by the faculty of this institution.

"Beginning with last year a radical change has been made by dental schools in the method of examination for admission. Formerly these examinations were made by the officers of the Dental School, but the Faculties' Association, at the Omaha meeting in 1898, passed a rule requiring that these examinations be made by the legally constituted officers of instruction of the locality in which the applicant resides.

"Therefore students desiring to matriculate in this School must bring with them credentials signed by a County or State Superintendent of Schools, a City Superintendent of Schools or a principal of a high school.

"These credentials must show the applicant to have progressed in his studies to the grade of the second year of the high school, or its equivalent, in order to entitle him to enter this school for the term beginning October, 1901. These credentials will not be required of applicants who present diplomas from high-schools or colleges." These rules apply to first year students only.

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ADVANCED STANDING

Students who present certificates showing that they have taken courses in other schools of equivalent standing, in subjects required in this School, will be accredited with such studies, if satisfactory to the professors in the respective departments.

COURSE OF STUDY

The course of study required for graduation extends through three years. The courses taught are materia medica, operating dentistry, prosthetic dentistry, dental history, the construction of vulcanite and metallic bases, crown and bridge work, clinical comparative methods, infirmary prosthesis, bacteriology, anatomy, physiology, histology, chemistry, neurology, and dental jurisprudence. The work of each year continues seven months and is progressive from one year to another. The system of teaching includes lectures, demonstrations, recitations, and written and oral examinations, as well as individual instruction in actual work.

More detailed information concerning the School of Dentistry is given in the special announcement of the School. Address the Director, Dr. A. H. Peck, 92 State street, Chicago, Ill., or the Registrar of the University, Urbana, Ill.

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THE SCHOOL OF PHARMACY

(For Faculty of School of Pharmacy, see p. 26.)

HISTORY

The Chicago College of Pharmacy is a corporation which was founded by prominent pharmacists of Chicago and vicinity in 1859 for the purpose of advancing the practice of pharmacy. One of the first steps taken was the establishment of a school of pharmacy. At that time there was no school of the kind west of the Alleghany Mountains. Members and friends contributed money, books, apparatus, and supplies; teachers were secured and a course of lectures was instituted in November, 1859.

The first class, of but two students, was graduated in 1861. The war caused a suspension of the teaching, and the school was not reopened until 1870. The great fire, in 1871, destroyed the equipment, but pharmacists throughout Europe and America extended help to the institution, furnishing an excellent library and outfit of apparatus, which became the nucleus of the present complete equipment. In 1872 the instruction was resumed for the second time and has since continued without interruption.

"The Pharmacist," a monthly journal published by the College, from 1866 until 1886, did much to advance the interests of pharmacy in the West.

In 1880 the members and graduates of the College took an active part in the formation of the Illinois Pharmaceutical Association, which, in the following year, secured the passage of the pharmacy law.

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The twenty-fifth anniversary of the founding of the College was signalized by the completion and occupation of a building in which ample space for many years' growth was provided. The better accommodations gave an impulse to better work. Up to this time instruction had been given mainly by means of lectures, laboratory work being entirely optional. Laboratory courses in pharmacy, chemistry, and vegetable histology were now made obligatory. A laboratory devoted entirely to prescription compounding was established in 1892. The excellence of the equipment in this department won for the College a medal and diploma at the World's Columbian Exposition.

The College was formally united with the University May 1, 1896, and is now conducted as the technical "School of Pharmacy of the University of Illinois." In the management of the School the Trustees and officers of the University have the assistance of an advisory board of pharmacists elected by the registered pharmacists of the state through the Illinois Pharmaceutical Association.

The School is situated near the business center of Chicago. In addition to the larger amphitheater, known as "Attfield Hall," which has a seating capacity of three hundred and fifty, the building occupied has a smaller hall especially fitted for lectures and demonstrations in chemistry, and capable of seating one hundred and fifty persons. The chemical and pharmaceutical laboratories, as well as the microscopical laboratory and the dispensing laboratory, are commodious and well appointed.

The courses of instruction, covering two terms of seven months each, extending from September to April, inclusive, afford opportunities for a thorough technical training, such as is necessary for the successful practice of pharmacy. The subjects taught are pharmacy, chemistry, botany, physiology, and materia medica.

The system of teaching includes lectures, demonstrations, recitations, written and oral examinations, as well as individual instruction in actual work in operative and dis-

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pensing pharmacy, analytical chemistry, use of the compound microscope, etc. Much time is devoted to laboratory practice.

REQUIREMENTS FOR ADMISSION

Applicants for admission must be at least sixteen years of age and must furnish evidence of their ability to prosecute the work of the course successfully.

The preliminary education should be equivalent to that required for entrance to a good high school.

Students who have pursued courses of study in other colleges of pharmacy, or at the University, will be given credit for such portions of their work as are equivalent to the work required by this School.

REQUIREMENTS FOR GRADUATION

The candidate for the degree of graduate in pharmacy must be twenty-one years of age, must have had four years' practical experience in pharmacy, including the period of attendance at School, and must have attended two full courses of instruction, the first of which may have been in some other reputable college or school of pharmacy. He must have attended regularly the laboratory and lecture courses of this School, must pass the examinations, and must not have been absent more than five times during the term from either laboratory exercises or lectures in any department.

The candidate for the degree of graduate in pharmacy, who presents himself for final examination before he has attained the age or practical experience required, will, if successful, receive a certificate of having finished the course, and will be awarded his diploma when the requirements of age and experience are complied with.

Persons competent to fulfill the general requirements of admission to the University may be granted credit upon the

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University courses for equivalent work satisfactorily completed at the School of Pharmacy.

Further information is given in the special announcement of this School. Address W. B. Day, Actuary, School of Pharmacy, 465-7 State Street, Chicago, Ill.

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SUMMER TERM

SUMMER TERM, 1902

The Summer Term of 1902 will open Monday, June 16th, continue nine weeks, and close Friday, August 15th. No examinations or other conditions will be placed upon admission. All who can do the work are welcome to get what they can from it. Those who can meet the requirements may matriculate in the University if they desire, and in that event may have credits to apply upon regular University courses, when certified, upon examination or otherwise, by the professors in charge. Examination in and credit for some of the courses may be had at the end of six weeks by any who find it impossible to remain during the whole session. Instruction begins on June 17th and closes on August 13th.

FEES

A tuition fee of twelve dollars ($12) is required of all students in regular attendance at the session. This entitles one to admission to all special lectures and to as many courses as may be approved by the Director. An extra laboratory fee is charged in some courses for materials used. Any single course may be taken for a fee of six dollars ($6) and the laboratory fee, if there be any in connection with the course taken. For all students who take examinations, credit will be entered upon the University records. For further information address Edwin G. Dexter, Director, Urbana, Illinois.

COURSES OFFERED

ART AND DESIGN.—Two courses will be offered in Art and Design, in charge of Mr. Lake.

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BOTANY.—Three courses, one of them an elementary course which will be accepted for admission, will be offered in botany, in charge of Dr. Hottes.

EDUCATION.—Seven courses will be offered in education, in charge of Professor Dexter, Assistant Professor Brooks, and Assistant Professor Colvin.

ENGLISH LITERATURE.—Four courses will be offered in English literature, by Professor Dodge and Mr. Paul.

GERMAN.—Three courses will be offered in German, by Professor Rhoades.

HISTORY.—Three courses, one of them an elementary course in American history, will be offered by Dr. Schoolcraft.

LATIN.—Three courses will be offered in Latin, by Dr. Neville.

MANUAL TRAINING.—Two courses, lectures, recitations and shop work. Supervisor Roberts of the Cleveland Public Schools.

MATHEMATICS AND ASTRONOMY.—Ten courses in mathematics and astronomy, including elementary algebra, and plane and solid geometry, will be offered by Assistant Professor Short, Mr. Milne and Mr. Brenke.

PHYSICS.—Three courses, one of them an elementary course, will be offered in physics, by Assistant Professor Sager and an assistant.

PSYCHOLOGY.—Two courses, by Assistant Professor Colvin.

RHETORIC.—Four courses, one of which is an elementary course that will be accepted for entrance to the University, will be offered in rhetoric by Professor Clark and Mr. Horner.

SCIENCE, ELEMENTARY.—Four courses by Professor Davenport, Dr. Hottes, Dr. C. W. Hodge of Clark University, and Professor Dexter.

ZOÖLOGY.—Three courses, including an elementary course, will be offered in zoölogy by Mr. McClellan.

The libraries, laboratories, Astronomical Observatory, and Gymnasium of the University will be open for students at the summer term.

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GENERAL DESCRIPTION OF COURSES

Following the description of each course of instruction will be found the necessary requirements, if any, for admission to that particular course. Careful attention must be given to these requirements and to the sequence of studies thus indicated. For instance, under Architecture 4, for students of the College of Engineering, page 178, there are required "Physics 1 and 3," and "Architecture 2 and 3." Turning now to these subjects, it is found that physics 1 and 3 are the major course of one year, architecture 2 is wood construction, and architecture 3 is metal construction. All these subjects must be satisfactorily passed before admission may be had to the class in architecture 4.

In case a course not required for graduation is selected by less than five students, the right to withdraw the same for the semester is reserved.

Graduate courses of instruction are described under the various subjects, as a rule after the undergraduate courses. They are numbered upward from 100. Other courses may often be arranged by the professors in charge to meet the special requirements of students.

Credit is reckoned in semester "hours," or simply "hours." An "hour" is either one class period a week for one semester, each class period presupposing two hours' preparation by the student, or the equivalent in laboratory, shop, or drawing room.

The semester, the days, and the class period or periods during which each course is given, and the number of "hours" per semester for which the course counts, are shown after each course, as follows: The semester is indicated by the Roman numerals I., II.; the days, by the initial letters of

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the days of the week; the class period or periods (of which there are nine each day, numbered consecutively from one to nine), by Arabic figures; and the "hours" or amount of credit, by Arabic figures in parenthesis. For example, after the description of Astronomy 5 (p. 187) occur the abbreviations I.; M., W., F.; 6; (3). These are to be read first semester, Monday, Wednesday, and Friday, sixth period, three "hours."

AGRONOMY

Professor HOPKINS, Mr. SHAMEL, Mr. WARD, Mr. SMITH, Mr. KNOX, Mr. BULL, Mr. CRANE.

1. DRAINAGE AND IRRIGATION.—Location of drains and irrigation conduits, leveling, digging, laying tile and pipes, filling, and subsequent care; cost of construction and efficiency; sewers for the disposal of waste water from farm buildings and the sewage from kitchen and toilet; farm water pipes, pipe and thread cutting. Class work, laboratory and field practice. *I., first half; daily; 6, 7; or II., second half; daily; 3, 4 (2½).* Mr. CRANE.

2. FIELD MACHINERY.—The tools and machinery of the field,—plows, harrows, and hoes; seeders, drills, corn and potato planters; cultivators, weeders and spraying machines; mowers, rakes, self-binders, corn harvesters and huskers, potato diggers, wagons, etc. Class work and laboratory practice, including setting up and testing machines, noting construction and elements necessary for successful work. *I., first half; daily; 1, 2; or II., second half; daily; 1, 2 (2½).* Mr. CRANE.

3. FARM POWER MACHINERY.—Horse-powers, gas engines, traction engines, windmills, pumps, corn shellers, feed cutters, grinders, and threshing machines,—their construction, efficiency, durability, and care. Class room and laboratory work. *I., second half; daily; 1, 2; (2½).* Mr. CRANE.

4. FARM BUILDINGS, FENCES AND ROADS.—The arrangement, design, construction, and cost of farm buildings, especially of barns, granaries, and silos; the different kinds of fences, their cost, construction, efficiency, and durability; cost and construction of roads and walks. Class work and practice in designing and drafting buildings, operating fence-building machines, setting and testing fence posts, making walks, etc. *II., first half; daily; 3, 4; (2½);* MR. CRANE.

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5. FARM CROPS.—Quality and Improvement. Judging of corn and oats, wheat grading, methods of improving quality, shrinkage of grain, care of stored crops to prevent injury and loss. Class and laboratory work. *I., first half; daily; section A., 3, 4; section B., 6, 7; (2½).* MR. SHAMEL and MR. BULL.

6. FARM CROPS.—Germination and Growth. Vitality and germination of seeds, preservation of seeds, methods of seeding; conditions of plant growth; peculiarities of the different agricultural plants in respect to structure, habits, and requirements for successful growth; enemies to plant growth,—weeds and weed seeds, their identification and methods of destruction, fungous diseases, such as smut of oats and wheat, and blight, scab, and rot of potatoes, methods of prevention; insects injurious to farm crops and how to combat them. Class room, laboratory, and field work. *II., first half; daily; section A, 1, 2; section B, 3, 4; (2½).* MR. SHAMEL and MR. BULL.

7. SPECIAL CROPS.—A special study of farm crops taken up under an agricultural outline,—grain crops, root crops, forage crops, sugar and fiber crops,—their history and distribution over the earth, methods of culture, cost of production, consumption of products and residues, or by-products. Class work supplemented by practical field work and a study of the results of previous experiments, such as detasseling corn, injury to roots of corn by cultivation; selection and breeding of corn and other crops, with special reference to practices which apply directly to Illinois conditions. Students will have an excellent opportunity to study the work of the Agricultural Experiment Station. *II.; daily; 1, 2½ (5).* MR. SHAMEL and MR. BULL.

Required: Agronomy 2, 5, 6.

8. FIELD EXPERIMENTS.—Special work by the students, conducted in the field. This work consists in testing varieties of corn, oats, wheat, potatoes, and other farm crops; methods of planting corn, seeding grains, grasses, and other forage crops; culture of corn, potatoes, and sugar beets; practice in treating oats and wheat for smut, and potatoes for scab, and studying the effects upon the crops; combating chinch bugs and other injurious insects. Other practical experiments may be arranged with the instructor. Special opportunities will be given to advanced students of high class standing to take up experiments, under assignment and direction of the instructor in farm crops, on certain large farms in the state, arrangements having been made with the farm owners or managers

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for such experiments. *II., second half, and summer vacation; daily; arrange time; (2½-5).* Mr. SHAMEL and Mr. BULL.

Required: Agronomy 7, 12.

9. SOIL PHYSICS AND MANAGEMENT.—This course is designed to prepare the student better to understand the effects of the different methods of treatment of soils and the influence of these methods upon moisture, texture, æration, fertility, and production. It comprises a study of the origin of soils, of the various methods of soil formation, of their mechanical composition and classification; of soil moisture and means for conserving it; of soil texture as affecting capillarity, osmosis, diffusion, and as affected by plowing, harrowing, cultivating, rolling, and cropping; of the wasting of soils by washing; fall or spring plowing and drainage as affecting moisture, temperatures, and root development. The work of the class room is supplemented by laboratory work, comprising the determination of such questions as specific gravity, relative gravity, water holding capacity and capillary power of various soils; also the study of the physical effects of different systems of rotation and of continuous cropping with various crops, and the mechanical analysis of soils. *I.; daily; 1, 2; (5).* Mr. KNOX.

Required: Two credits in entrance Physics, Geology 11, and Agronomy 2.

10. SPECIAL PROBLEMS IN SOIL PHYSICS.—This work is intended for students wishing to specialize further in the study of the physical properties of soils, and will include the determination by electrical methods of the temperature, moisture, and soluble salt content of various soils under actual field conditions; effect of different depths of plowing, cultivation, and rolling, on soil conditions; effects of different methods of preparing seed beds; the physical questions involved in the formation and redemption of the so-called "alkali," "barren" or "dead dog" soils, and of other peculiar soils of Illinois. *II., or summer vacation; daily; arrange time; (5).* Mr. KNOX.

Required: Agronomy 9.

11. SOIL BACTERIOLOGY.—A study of the morphology and activities of the bacteria which are connected with the elaboration of plant food in the soil, or which induce changes of vital importance to agriculture, with regard to the effects of cropping and tillage upon these organisms, and with special reference to the study of those forms which are concerned with the formation of nitrates and nitrites in the soil and with the accumulation of nitrogen by

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leguminous crops. Class room and laboratory work. *II.; daily; 6, 7; (5).* Mr. Ward.

Required: Botany 5; Chemistry 3b, 4.

12. Fertilizers, Rotations, and Fertility.—The influence of fertility, natural or supplied, upon the yield of various crops; the effect of different crops upon the soil and upon succeeding crops; different rotations and the ultimate effect of different systems of farming upon the fertility and productive capacity of soils. The above will be supplemented by a laboratory study of manures and fertilizers, their composition and their agricultural and commercial value; of soils cropped continuously with different crops and with a series of crops; of the fertility of soils of different types, or classes from different sections of Illinois. *II.; daily; 1, 2; (5).* Professor Hopkins.

Required: Chemistry 13; Agronomy 6, 9.

13. Investigation of the Fertility of Special Soils.—This course is primarily designed to enable the student to study the fertility of those special soils in which he may be particularly interested, and to become familiar with the correct principles and methods of such investigations. It will include the determination of the nature and quantity of the elements of fertility in the soils investigated, the effect upon various crops of different fertilizers added to the soils, as determined by pot cultures, and, where possible, by plot experiments. This work will be supplemented by a systematic study of the work of experiment stations and experimenters along these lines of investigations. *I., II.; arrange time; (2 to 5).* Professor Hopkins.

Required: Agronomy 12.

14. History of Agriculture.—The history and development of agricultural practice and progress, with special reference to the methods employed in ancient times and the effect upon agriculture of the introduction of rational crop rotations, the intelligent use of fertilizers, the introduction of machinery, and the systematic breeding of animals and plants. *I.; Tu., Th.; 8; (2).* Mr. Bull.

Required: One year of University work.

15. Comparative Agriculture.—Reasons for the differences in the agriculture of different times, peoples, and countries, and why it is that the agriculture of a region or of a farm is a definite and individual problem, together with the need of harmonizing agricultural practice with natural conditions as well as with the findings of science. Circumstances that influence agricultural practice, as

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soil, climate, machinery, race, custom, land tenure, etc., and what is best under different conditions. Lectures; *II.; Tu.; 4; (1)*. Professor DAVENPORT.

Required: One year of University work.

16. GERMAN AGRICULTURAL READINGS.—A study of the latest agricultural experiments and investigations published in the German language, special attention being given to soils and crops. The current numbers of German journals of agricultural science will be required and used as a text. This course is designed to give the student a broader knowledge of the recent advances in scientific agriculture, and, incidentally, it will aid him in making a practical application of a foreign language. It is recommended that it be taken after Agronomy 12. *II.; Tu., Th.; 4; (2)*. Professor HOPKINS.

Required: Two years' work in German.

17. SPECIAL WORK IN FARM MECHANICS.—Students may arrange for special work in any of the lines covering drainage or farm machinery, either in the second semester or the summer. *(2½-5)*. Mr. CRANE.

18. INVESTIGATION AND THESIS.—This course varies in the subject matter of study, according to the department in which theses are written. The work is under the direction of the head of the department in which the work is done. *I., II.; arrange time; (5 to 10)*.

ANIMAL HUSBANDRY

Professor MUMFORD, Mr. SKINNER.

1. SHEEP, MUTTON, AND WOOL.—The comparative quality and value of mutton cuts; different grades of wool and their uses in manufactures, together with a critical examination of animals both for mutton, wool, and breeding purposes. The development and characteristics of the several breeds; the most successful methods of flockmasters, and the economic production of mutton and wool for the markets of the world. Lectures, assigned readings and extensive practice in judging. *I.; Tu., Th.; 3, 4; (3)*. Mr. SKINNER.

2. SWINE AND THEIR PRODUCTS.—A study of the types and breeds of swine and the most successful methods of growing and marketing their products. Lectures, assigned readings, and prac-

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tice in judging. *I.; M., W., F.; Sec. A, 3; Sec. B, 4; (2).* Mr. SKINNER.

4. MARKET CLASSES, HEAVY HORSES.—The horse market; an outline of the types and classes in demand; special study of the heavy horse, of the uses to which he is put, and of the breeds suitable for his production, together with the best methods of producing and fitting heavy horses for market. Lectures, assigned readings, and exhaustive practice in judging. *II.; first half; M., W., F.; 6, 7; (2).* Mr. SKINNER.

5. MARKET CLASSES, LIGHT HORSES.—Coach, carriage, and road horses; bus horses, cab horses, and saddlers; artillery and cavalry horses; a systematic study of their classes and types and of the breeds and methods most suitable for their production; also handling and fitting for market. Lectures, assigned readings, and practice in judging. *II.; first half; T., Th.; 6, 7; Sat. 1, 2; (2).* Mr. SKINNER.

7. PRINCIPLES OF STOCK FEEDING.—The functional activities of the animal body and the end products of their metabolism. Foods are considered first chemically, as affording materials for the construction of the body tissues or of animal products, as meat, milk, wool, etc.; second, dynamically, as supplying the potential energy for the body processes and for external labor; third, as to the fertilizing value of their residues. *I.; first half; daily; 3; (2½).* Professor MUMFORD.

Required: Chemistry 1, 3b, 4, 13; entrance Physics or its equivalent and one year of Botany or Zoölogy.

8. STOCK BREEDING.—(See Thremmatology 1).

9. INVESTIGATION AND THESIS.—Upon lines to be arranged with instructor for one or both semesters, according to nature of the subject. *(5-10).* Professor MUMFORD.

10. MEAT.—The various cuts of beef, mutton, and pork, their comparative food value, quality and cost; a critical study of quality and richness in meat; the by-products of the slaughter house and their bearing upon the cost of meat. Lectures, assigned readings, and demonstrations. *I.; second half; daily; 6; (2½).* Professor MUMFORD.

11. MARKET GRADES OF BEEF CATTLE.—An outline of the market types and grades, including prime steers, stockers, and feeders. A study of beef type from the standpoint of the butcher, the feeder, and the breeder. Lectures, assigned readings, and exhaustive prac-

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tice in judging. *I.: second half; daily; Sec. A, 7; Sec. B, 8. (2½).* Professor MUMFORD.

12. BREEDS OF BEEF CATTLE.—The history, development and characteristics of the breeds suitable for beef production. Tracing pedigrees and a critical study of the same. (This course is intended for students expecting to own or manage pure-bred herds.) Lectures, assigned readings, and exhaustive practice in judging. *I.; first half; Lectures, M., W., F., 6; Laboratory or practical exercises in judging, T., Th.; 6, 7; (2½).* Professor MUMFORD.

Required: (After 1902) Animal Husbandry 1 and 2.

13. BEEF PRODUCTION.—Methods and practices in breeding and feeding beef cattle for the open market. By-products of the feed lot and their bearing upon the cost of beef. It is recommended that this course should be taken after animal husbandry 1. Lectures, assigned readings, and a study of experimental work. *II.; T., Th.; 8; (2½).* Professor MUMFORD.

14. MANAGEMENT OF PURE-BRED HERDS OF BEEF CATTLE.—Like animal husbandry 3, this course is intended for students anticipating the management or ownership of registered herds. The breeding herd, and its housing, feed, and management. The selection and fitting of animals for sale and for the show ring. Disposal of surplus stock. Lectures and assigned readings. *I.; second half; daily; 1; (2½).* Professor MUMFORD.

Required: (After 1902) Animal Husbandry 1, 2, 3 and 4.

15. DAIRY CATTLE.—(See Dairy Husbandry 2 and 3.)

16. STABLE MANAGEMENT AND FEEDING.—Stables; stable floors, fixtures and other equipment, and their care; feeding and care of work horses and drivers at labor and at rest; care of harness, vehicles, etc. Lectures, and reference readings. *I.; second half; M., W., F.; 7; (1½).* Mr. SKINNER.

17. THE EDUCATION AND DRIVING OF THE HORSE.—A critical study of the mental qualities, peculiarities, and limitations of the horse, together with the most successful methods of educating and training him for skillful work at labor or on the road. The rules and practices of correct driving; the responsibilities of the driver, and the courtesies of the public highway. Lectures, readings, and practice. *II.; second half; daily; 6, 7; (3).* Mr. SKINNER.

18. BREEDS OF LIGHT HORSES.—Their history, development, characteristics and uses. Lectures and assigned readings. *I.; first half; M., W., F.; 7; (1½).* Mr. SKINNER.

Required: Animal Husbandry 5 or its equivalent.

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19. BREEDS OF DRAFT HORSES.—Their history, development and characteristics. Lectures and assigned readings. *I.; first half; Tu., Th.; 7; (1).* Mr. SKINNER.

20. BREEDING, REARING AND MANAGEMENT.—Selection of breeding stock; care and management of stallions, mares and foals; buying, selling and showing. Lectures and assigned readings. *I.; second half; Tu., Th.; 7; (1).* Mr. SKINNER.

Required: Animal Husbandry 4 or 5 and 18 or 19.

ANTHROPOLOGY

Professor DANIELS.

1. ETHNOGRAPHY.—The physical and psychical elements of ethnography. Origin, characteristics, and subdivisions of races and peoples. Lines of migration and national intercourse. *I.; Tu., Th.; 2; (2).* Professor DANIELS.

Required: A major or minor course in economics, geology, psychology, or zoölogy.

2. ETHNOLOGY.—A comparative study of customs, ceremonies. rites, and folk-lore, of primitive peoples. Special attention is given to the study of primitive religious ideas with reference to their relation to the various civilizations, and also to the psychic nature of man. *II.; Tu., Th.; 2; (2).* Professor DANIELS.

Required: Two years of University work.

ARCHITECTURE

PROFESSORS RICKER AND WHITE; ASSISTANT PROFESSORS MCLANE AND TEMPLE.

2. WOOD CONSTRUCTION.—Formulæ and data for computing dimensions and strength of columns, beams, girders, etc., of wood or metal, are given and applied in the solution of examples. Wood and its uses in construction and decoration, seasoning, shrinkage, defects, and modes of protection from decay. Construction and design of wooden floors, walls, ceilings, and roofs, and joinery, doors, windows, bays, inside finish, cornices, wainscoting, stairs, etc. *Kidder's Building Construction and Superintendence; Part II.; Jones's Logarithmic Tables. I.; lecture, M., Th.; 4; drawing, M., F.; 7 and 8. (3).* Assistant Professor MCLANE.

Required: General Engineering Drawing 1, 2.

3. MASONRY AND METAL CONSTRUCTION.—Foundations of stone. brick, concrete, and piles; materials employed in stone masonry,

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their uses, defects, qualities, and modes of preparation. Kinds of masonry and external finish. Tools for stone cutting and their use. Preparation of working drawings, with application to the arch, vault, and dome. Brick masonry, its materials, and bonds. Manufacture and refining of cast iron, wrought iron, and steel, with processes of pattern-making, molding, casting, refining, rolling, etc., and standard dimensions or sections. Special properties and value of metal in a structure, designing a line of columns in mercantile building, and of beams, girders, and footings, together with the study of joints and connections. *Part I. of Kidder's Building Construction and Superintendence. II.; lecture, M., W.; 7; drawing, M., W.; 2 and 3; (3).* Assistant Professor McLANE.

Required: General Engineering Drawing 1, 2.

4. SANITARY CONSTRUCTION.—Recitations and lectures, designs for special problems. Study of plumbing, trap ventilation, removal of wastes, construction of water closets, drains, and systems of water supply; sewage disposal. Water supply and fixtures in dwellings. *Gerhard's Sanitary Engineering; Lectures on Sewage Disposal. I.; M., W., F.; 2; (3).* Assistant Professor McLANE.

Required: Physics 1, 3; Arch., 2, 3.

5. GRAPHIC STATICS AND ROOFS.—Elements of graphic statics and applications in designing trussed roofs. Forces, equilibrium, reactions, moments, bending moments, and shears on beams, center of gravity, moment of inertia and kern of cross sections. Construction of wooden and of metallic roofs, mode of computing loads on roof trusses, obtaining end reactions, drawing strain diagrams, and determining sectional dimensions of members, with the designing of joint connections. *Ricker's Trussed Roofs; Ricker's Elementary Graphic Statics. II.; M., W., F.; 6, 7, 8; (3).* Assistant Professor McLANE.

Required: Math. 2, 4, 6; Theoretical and Applied Mechanics 1, 2 or 4, 5.

6. HISTORY OF ARCHITECTURE.—Continues through the year and is taken with architecture 7 and 11. Commencing with Egyptian and ending with modern styles, a careful study is made of the more important styles, examining historical conditions, local and inherited influences, structural materials and system, special ornaments, purposes and designs of the buildings, with the most important typical examples of each style. Especial attention given to ideas useful or suggestive in American work, and to tracing gradual evolution of architectural forms. One recitation and two illustrated lectures

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a week. References made to Fergusson, Lubke, Durm, Reber, Choisy, Hamlin, etc. *Fletcher's History of Architecture, 4th Edit. I.; M., Tu., W., Th.; 3; II.; M., Tu., W., Th.; 4; (4).* Professor RICKER.

Required: Architecture 4.

7. DETAILS OF STYLES.—Exercises in drawing at large scale the most important details of the Grecian, Roman, Early Christian, Byzantine, Mohammedan, Romanesque, Gothic, and Renaissance styles. Taken with Architecture 6. *Notes and Sketches. I., II.; Tu., Th.; 1, 2; (1).* Assistant Professor MCLANE.

Required: Architecture 2, 3, 8.

8. THE ORDERS OF ARCHITECTURE.—A study of the Five Orders of Architecture, and architectural Shades and Shadows. A careful study of the proportions and details of the Orders is first made with lectures, recitations, blackboard sketches from memory, and problems requiring the use of the Orders. *Ware's Five Orders; Lectures on Shades and Shadows. I.; lecture, W., F.; 4; drawing, Tu.; 1, 2, 3, 4, 5; (3).* Assistant Professor TEMPLE.

Required: Gen. Eng'g Drawing 1, 2; Architecture 20 or 21.

9. MONTHLY PROBLEMS.—Preliminary instruction in rendering. An entire day in each month during the second and third years is devoted to a problem in design. Program is made known at beginning of the exercise, and sketches must be completed and rendered during the same day. Credit is given for this study only after the completion of each year. *I., II.; first Tu. in each month, all day; (½ for each semester.)* Assistant Professor TEMPLE.

Required: General Engineering Drawing 1, 2.

10. WORKING DRAWINGS.—Conventional methods for representing the different parts of buildings in general and in detail, conventional colors and sectioning; systems of lettering and figuring drawings; working drawings; tracing; drawing for reproduction. Taken with Arch. 16. *II.; Tu.; 6, 7, 8; (1).* Professor WHITE.

Required: Architecture 2, 3.

11. ARCHITECTURAL SEMINARY.—Reports and discussions of original investigations of assigned topics in History of Architecture; reviews of books, abstracts of current technical journals, and other publications. Taken with Arch. 6 and 7. *I.; F.; 3; II.; F.; 4: (1).* Professor RICKER.

12. SUPERINTENDENCE, ESTIMATES AND SPECIFICATIONS.—This study comprises several specialties not otherwise provided for, so far as they can be taught in a professional school. The subjects

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treated include the duties of a superintendent, his relations to architect, owner, and contractor, the method of supervising work, systems of keeping building accounts, the usual methods of measurement of materials and work, arrangement of computations in proper and convenient order, and approximate prices of material and labor, which vary in different localities. The methods of estimating by squaring, cubing, units, and quantities are each employed and illustrated by problems. A study is made of the general and special clauses of specifications and of their arrangement, as well as of methods of classifying material to facilitate writing specifications. Practice is obtained by writing several sets. *Clarke's Building Superintendence; Lectures on Building Law; Hodgson's Estimating; Bower's Specifications. I.; Tu., W., Th.; 6; (3).* Professor WHITE.

Required: Architecture 4.

13. HEATING AND VENTILATION.—Scientific theory and practice of warming and ventilating buildings is the object of this study. Commencing with fuels and production of heat, then passing to flow of gases through ajutages and pipes, applying these data to calculation of dimensions of air ducts and chimneys. Different systems of heating by furnaces, hot water, steam, etc., are next examined, with details of each. Sources of impurity in the air and requirements of good ventilation are then considered, with the different methods of ventilation by aspiration, by fans, etc., ending with the study of fans of different types. Numerous problems are given, and heating plants designed. *Carpenter's Heating and Ventilating Buildings; Ricker's Notes on Heating and Ventilation. I.; Tu., W., Th., F.; 4; (4).* Professor WHITE.

Required: Architecture 4, 15; Physics 1, 3.

14. ARCHITECTURAL PERSPECTIVE.—Theory of perspective is taught with labor-saving methods of abbreviating work, and designing in perspective is made a special aim. Problems in angular, parallel, vertical, and curvilinear perspective, as well as in perspective shades and shadows, are solved, requiring original work as far as possible, so as thoroughly to prepare the student for any kind of work in perspective, instead of restricting him to the study and use of a single system. *Ware's Modern Perspective. II.; M., W., F.; 3, 4; lecture, Th.; 3; (3).* Assistant Professor TEMPLE and Professor WELLS.

Required: General Engineering Drawing 1, 2a.

15. REQUIREMENTS AND PLANNING OF BUILDINGS.—Lectures

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are fully illustrated by plans sketched on the blackboard, which must be embodied in students' notes. Numerous problems in planning are given. *II.; lecture, Th.; 2; drawing, Tu., F.; 1, 2, 3; (3).* Professor WHITE.

Required: General Engineering Drawing 1, 2; Architecture 2.

16. RESIDENCE DESIGN.—Practice in design, and study of the requirements for dwellings. The work is limited to residences, since this class of buildings is likely to afford the graduate his first opportunity for independent original work. Lectures and blackboard sketches to be copied in students' notes. Taken together with Arch. 10; *II.; lecture, W.; 3; drawing, Th.; 6, 7, 8; (2).* Professor WHITE.

Required: Architecture 2, 3, 8.

17. ARCHITECTURAL DESIGNING.—Simple problems in design are solved by sketch plans, elevations and sections, rendered as required. The object is to obtain as much practice in design as possible, and the course serves as an introduction to senior work in design. *I.; M., W., F.; 6, 7, 8; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 8, 9, 11, 20 or 21.

18. ARCHITECTURAL COMPOSITION.—A careful study is made of the laws of architectural design and of the results of experience embodied in the text-book, with numerous references to other authors. Commences with general principles, passing to an examination of proportions employed in most important styles, arrangement of plan, external design in general and detail, ceilings, and interiors, arrangement of corridors, stairways, and entrances, of internal courts, and of halls for large assemblages. Frequent problems in design afford practical applications of the principles. *Robinson's Architectural Composition; Ricker's Translation of Architektonische Composition* (Handbuch der Architektur). *II.; M., W., F.; 1 and 2; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 11, 17, 20 or 21.

19. ARCHITECTURAL ENGINEERING.—This continues the study of graphic statics, commenced in "Graphic Statics and Roofs," with applications to metallic roofs of wide span, roof trusses of curved or unusual form, and those supported by abutments and jointed. Spherical and conical trussed domes. Effect of moving loads on girders, the graphical analysis of the arch, vault, and dome, and of the Gothic system of vault and buttress. Construction and details of steel skeleton buildings. Practical applications are made to a

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series of problems in design for specified cases. *Ricker's Notes on Advanced Graphics; Freitag's Architectural Engineering; Ricker's Translation of Wittmann's Arch and Vault. I.; Tu., W., Th.; 7; (3).* Professor WHITE.

Required: Math. 2, 4, 6, 7, 9; Theoretical and Applied Mechanics 1, 2; Architecture 2, 3, 5.

20. Prescribed.

Any courses offered in Art and Design amounting to three semester hours. *I., II.; daily; (3).* Mr. LAKE.

21. Optional.

Any advanced courses offered in Art and Design. *I., II.; daily;* Professor FREDERICK.

Required: Architecture 20.

The art and design courses offered as Architecture 20 and 21 are varied to meet the special needs of students of architecture.

22. RENAISSANCE DESIGN.—Advanced problems in design are worked out as fully as time permits. *I.; M., W., F.; 1, 2, 3; (3).* Assistant Professor TEMPLE.

Required: Architecture 17, 18.

23. GOTHIC DESIGN and (24) ROMANESQUE DESIGN.—Courses 23 and 24 are taken together. A prescribed series of tracings of important details is made, and problems in construction and design are worked out as fully as time permits. *Ricker's Translation of "Redtenbacher's Leitfaden." I.; lecture, M.; 4; drawing, M., F.; 6, 7, 8; (3).* Professor WHITE.

Required: Architecture 6, 7, 11, 14, 18, 20 or 21.

25. DESIGN OF ORNAMENT.—The study of historical ornament with exercises in designing architectural ornament to decorate the structural forms usually found in practice. These designs will be charcoal or crayon sketches, drawings rendered in shade or color, or finished drawings, at as large a scale as possible. *Lectures Meyer's Hand-book of Ornament. II.; Tu.; 1, 2, 3; Th., F.; 1, 2; (3).* Professor WELLS.

Required: Architecture 6, 7, 11, 17, 18, 20.

27. DOMESTIC ARCHITECTURE.—Instruction in this subject will be given only in connection with courses in Household Science 2 and 3.

28. MURAL DECORATION.—Includes the study and analysis of some of the best examples of modern decorated interiors; the appropriate use of various materials; the rendering of scale drawings in color, with especial reference to the esthetic effect produced

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by various harmonies of color. *I.; Tu., Th.; 1, 2, 3; II.; M., W.; 2, 3, 4; (2).* Professor WELLS.

29. SHORT HISTORY OF ARCHITECTURE.—(Elective for students in the College of Science or Literature and Arts.) A careful study of the important historical styles of architecture, their origins, systems of construction, elementary forms, decoration by sculpture and painting, chief kinds of buildings, and a series of selected examples, illustrated by lantern slides. *Two weekly lectures with reading of Hamlin's History of Architecture. I.; arrange time; (2).* Professor RICKER.

30. THESIS.—The preliminary work on the thesis is begun during the first semester, but no special time is set apart on the program nor any credit granted for it during this semester.

In the second semester credit may be given to the amount of seven hours in architecture and four hours in architectural engineering, and a regular time shall be assigned on the program for this part of the work, but the amount of time so prescribed shall in no case be considered to be the total thesis requirement.

31. ARCHITECTURAL READINGS.—Reading of French and German architectural books for obtaining an acquaintance with technical terms in those languages. Optional work in either or both languages is offered to architectural students. *Laloux' Architecture Grecque; Hauser's Styl-Lehre. I.; Each (1).* Professor RICKER.

Required: French or German (10).

COURSES FOR GRADUATES

Primary

101. Construction of Extensive Wooden Buildings.

102. Recent Uses of Stone, Brick, and Terra Cotta in Architecture.

103. Metallic Skeleton Buildings.

104. Fire-resisting and Fire-proof Buildings.

105. Sanitation of Public and Semi-public Buildings.

106. Researches on the Evolution of Architectural Styles.

107. Higher Applications of Graphic Statics.

108. Heating and Ventilation of Large Buildings.

109. Higher Studies in Architectural Design.

110. Researches and Experiments in Applied Esthetics.

111. Translation of an approved Technical Architectural Work from the French or German.

112. Indexing and Classification of Periodicals, Books, Data, and Technical Information for Architects and Engineers.

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Secondary

113. Stereotomy Applied to American Problems.

114. Examinations of Heating and Ventilation of Buildings

115. Photography for Architects.

116. Methods of Reproducing Drawings, Specifications, etc., for Architects.

117. Higher Problems and Methods in Perspective.

118. Practice in Estimates, Specifications, etc., for Large Buildings.

119. Higher Industrial Design.

120. Advanced Water-color Painting.

121. Study of Office Methods and Arrangements.

122. Any *primary* offered in the College of Engineering.

123. Electric Lighting and Wiring for Buildings.

ART AND DESIGN

Professors FREDERICK and WELLS and Mr. LAKE.

1. FREE-HAND DRAWING.—The aim of this course is to develop the ability to see and express accurately and simply the appearance of form. After a series of lectures upon the principles of perspective, illustrated by drawing from geometric solids, these principles are applied by drawing (largely in outline) books, chairs, casts of ornament, details of machinery, plants and flowers from nature, mounted specimens, and whatever will assist the students in their university courses or prepare them for future work in the department. In the latter part of the semester, students not able to take further work in the department are given instruction in expressing light and shade. Weekly exercises are given in lettering and the principles of design. *I.; daily; section A, 1, 2; section B, 3, 4; section C, 6, 7; (3); II.; daily; 3, 4; (3).* Mr. LAKE.

1b. A special section is arranged for students from the College of Science. *I.; Th.; 2, 3, 4; (1).* Professor FREDERICK.

2. CHIAROSCURO.—This course is devoted to the study of the principles of light and shade with practice in expressing color values, textures, etc., in charcoal, crayon, chalk, or wash drawings of still-life, casts and the posed figure. Color may be taken up during the second half of the semester. If the weather is suitable, out-door work is carried on the latter part of the semester. Weekly

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exercises are given in applied design. *II.; daily; section A, 1, 2; section B, 3, 4; section C, 6, 7; (3).* Mr. LAKE.

Required: Art and Design 1.

3. CAST DRAWING.—A course offered students who enter the department with a knowledge of perspective and chiaroscuro (courses 1 and 2), but without sufficient skill to enter advanced courses. Outline and shaded drawing from the antique and from casts of ornament. Sketching from life. Weekly exercises in design. Illustrated lectures on the history of sculpture. *I., II.; daily; 3, 4; (3).* Professor FREDERICK.

4. PAINTING FROM NATURE.—Still-life in oils, water colors, or pastels. *I.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 1, 2.

5. ADVANCED PAINTING FROM NATURE.—Still-life and landscape in oils, water colors, or pastels. *II.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 4.

8. MODELING.—This course is designed to give freedom in handling clay and to introduce the student to the third dimension, relief, never fully appreciated from the study of drawing and painting. The greater part of the semester is devoted to sketching, from cast and from life, with occasional careful copies of the antique and original designs for plaster, iron, and terra cotta decorations. Instruction is given in casting. *Frederick's Plaster Casts and How They are Made. I., II.; section A, M., W., F.; 3, 4; section B, M., W., F.; 6, 7; (2).*

8a. A special section for the study of architectural ornament is made for architectural students. *I., II.; Th.; 6, 7, 8; (1).* Professor FREDERICK.

Required: Art and Design 1 or 3.

9. ADVANCED MODELING.—This course is a direct continuation of course 8. Architectural students work full scale capitals, spandrels, panels, etc., of their own design. Special art students and others work largely in the round from the antique and from life. *II.; section A, M., W., F.; 3, 4; section B, M., W., F.; 6, 7; (2).* Professor FREDERICK.

Required: Art and Design 8.

10. PEN RENDERING.—In this course drawings are made with special reference to the requirements of the reproductive processes. The instruction is entirely individual, students working along lines most helpful to them in their several courses. Illustrated lectures

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on reproductive processes in art. *II.; S.; 2, 3, 4; (1).* Professor FREDERICK.

Required: Art and Design 1 or 3.

11. LIFE CLASS.—Study of the draped human figure with reference to portraiture and illustration. *II.; daily; 6, 7; criticism, M., F.; (3).* Professor WELLS.

Admission to this class on examination by the instructor only.

12. INDUSTRIAL DESIGN.—Study of the relation of design to manufacture. *I., II.; daily; time to be arranged; (3).* Professor FREDERICK.

Required: Art and Design 1, 2 or 3, 4, 8, 10.

14. PERSPECTIVE.—Lectures upon the principles of mechanical perspective. The problems given are arranged to have a direct bearing upon the work of other courses in the department. Two hours per week outside work required. *I., II.; Tu.; 5; (1).* Professor FREDERICK.

16. COLOR.—An elementary course planned to supplement the weekly exercises in design given in courses 1, 2 and 3. Lectures upon the use of color in decoration. Comparison of the several published theories of color. In the second semester illustrated lectures upon historic ornament are given, and practical designs in the spirit of each historic school are produced. Two hours per week outside work required. *I., II.; Th.; 5; (1).* Professor FREDERICK.

19. HISTORY AND CRITICISM OF THE ART OF PAINTING.—Weekly illustrated lectures extending through the year. *I.; time to be arranged.* Professor WELLS.

20. TEACHERS' CLASS.—In this class an application of the work of the other courses offered by the department to public school problems is made. Published courses of art study for the public schools are compared, and the class plans and arranges a course of art study for the eight grades of the public schools. Two hours per week outside work required. *I., II.; W.; 8; (1).* MR. LAKE.

ASTRONOMY

MR. BRENKE.

3. ELEMENTS OF ASTRONOMY.—A short course, covering the elements of descriptive astronomy and intended chiefly to serve as preparation for Astronomy 6. To this end, methodical and critical

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observation of celestial phenomena, together with their interpretation, independently and by the principles of the text, will be an essential feature of the work. Solution will also be made of numerical problems, based on observational data secured by the student. *Young's Elements of Astronomy. II.; M., W., F., 6; (3).* MR. BRENKE.

4. GENERAL ASTRONOMY.—Minor course. The course aims to supply a general knowledge of the facts of astronomy, a clear conception of underlying principles, and some acquaintance with the methods of arriving at these facts. Studies are made in the location of constellations and stars. In this course, practical questions are considered, though not made matters of chief importance, the literary and purely scientific features of the science being assigned chief prominence. *Young's Elements of Astronomy,* and *Young's General Astronomy. II.; daily; section A, 4; section B, 6; (5).* MR. BRENKE.

Required: Mathematics 4.

5. GENERAL ASTRONOMY AND COSMOGONY.—This is a continuation of course 4, and together with 4 it constitutes a line of study for students who wish to pursue astronomy as a major subject. In the latter part of this course the evidence both for and against the Nebular Theory is reviewed. The rôle of the tides in cosmogonic development receives special consideration, and the present view of the origin and cosmic history of the earth-moon system, together with the testimony of astronomy relating to it, are recapitulated to the epoch where astronomy yields to geology. A summarized statement of the results of the researches of Darwin and of Lord Kelvin is included. *I.; M., W., F.; 6; (3).* MR. BRENKE.

Required: An entrance credit in astronomy.

6. PRACTICAL ASTRONOMY.—This course, which is offered both for engineers and special astronomical students, is intended to give the student training in the use of instruments of precision. As a subordinate matter, he is introduced to instruments of a higher grade than those employed in ordinary surveying. A second purpose of the course is to train the student in the art of computing. Model forms of record and reduction for problems are set before him, and the advantage of compact and orderly arrangement of all work is strenuously insisted upon As a concrete outcome of the above training, the student should acquire the ability to determine latitude, time, and azimuth with such instruments as are used in the ordinary practice of civil engineering. An essential part of

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the work is the theory of astronomical instruments. *Campbell's Practical Astronomy. I. or II.; Tu., Th.; 6, 7; (2).* MR. BRENKE.

Required: Astronomy 3 or 4.

7. THEORY OF ORBITS AND SPECIAL PERTURBATIONS.—This course embraces the following subjects: The formation and integration of the differential equations of motion of a system of bodies and the derivation of the laws of undisturbed elliptic, parabolic, and hyperbolic motion. An investigation of the various formulæ and methods for finding the special perturbations of a heavenly body constitutes an essential part of this course. The methods of Encke, Hansen, and of Variation of Parameters, are developed and studied at length. *Oppolzer's Lehrbuch der Bahnbestimmung.* MR. BRENKE.

Required: Mathematics 1, 3, 7, 9, 14, 16; Astronomy 4.

9. CELESTIAL MECHANICS.—This course is a continuation of course 7, and has to do chiefly with the development and discussion of the absolute perturbations, both for the case in which the orbital eccentricities and inclinations are small, and for that in which they are so large as to make the ordinary series too slowly convergent, or even divergent. Some time is given to the study of subjects connected with figures of equilibrium of the heavenly bodies, and such other questions as are treated in Tisserand's Mecanique Céleste. MR. BRENKE.

Required: Astronomy 7.

10. ASTRONOMICAL SEMINARY AND THESIS.—The work of this seminary is on subjects either related to those considered in the senior courses, or connected with questions arising out of thesis investigations. This course is given in conjunction with astronomy 7 and 9, or with mathematics 12 and 13, according as the one or the other is current. *I., II.; Tu., Th.; 7; (2).* MR. BRENKE.

11. CALCULUS OF VARIATIONS.—See Mathematics 20.

12. SPHERICAL HARMONICS.—See Mathematics 21.

13. POTENTIAL FUNCTION.—See Mathematics 22.

14. OBSERVATIONAL ASTRONOMY.—The laboratory method of presentation is exclusively used in this course. Direct observational studies of celestial phenomena, with and without instrumental aid, constitute the major portion of the work. The problems set for solution will be largely individual and will be adapted to the degree of skill and maturity of the student. Advanced students may here find an introduction to the working methods of an astronomical observatory. In connection with astronomy 5 it presents the under-

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lying principles and methods of astronomy from both the theoretical and practical sides, to such an extent as to meet the requirements of a liberal education. *I.; Tu., Th.; arrange hours; (2).* Mr. Brenke.

Required: Mathematics 1, 3.

BOTANY

Professor Burrill, Dr. Hottes, Mr. Gleason and Mr. Ward.

1. Histology and Physiology.—General vegetable histology and vegetable physiology, or study of the cells and tissues of plants and their courses of development in structures and organs; and studies in the general activities of plants correlated with external conditions. Lectures or recitations and laboratory work. *II.; 6, 7; (5).* Dr. Hottes and Mr. Gleason.

Required: Entrance credit in Botany, or Botany 11; Chemistry 1; Art and Design 1.

2. Morphology.—The general morphology and taxonomy of plants, including a study of selected types in each of the great divisions of the vegetable kingdom. Lectures or recitations and laboratory work, with occasional field excursions. *I.; 6, 7; (5).* Professor Burrill and Mr. Gleason.

Required: Entrance credit in Botany, or Botany 11; Art and Design 1.

In courses 1 and 2 taken together, either in the order of the numbers or the reverse, there is offered a comprehensive treatment of the subject, to serve the double purpose of an introduction to the science for those who desire to continue the study, and as a complete course for general students. Each semester's work is, however, independent, and may be separately credited.

3. Cytology and Physiology.—Mostly laboratory work and assigned reading. The course extends through the year, but the work of each semester may be credited separately under the designations of 3a and 3b. The first semester is devoted mainly to cytology and histology, with special attention to technique; during the second semester experimental physiology receives chief attention. *I., II.; 1, 2;* (5). Dr. Hottes.

Required: Botany 1.

4. Taxonomy of Special Groups.—Mostly laboratory and herbarium work, and assigned reading. Field excursions are re-

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quired. The course extends through the year, but the work of each semester may be credited separately under the designations of 4a and 4b. The first semester is devoted mainly to spermaphytes, the second to sporophytes. *I., II.; 1, 2; (5).* Professor BURRILL.

Required: Botany 2.

5. BACTERIOLOGY.—An introduction to the knowledge of the subject and instruction in methods. *II.; 3, 4; (5).* Professor BURRILL and Mr. WARD.

Required: Chemistry 1, and at least one semester's work in botany or zoölogy, in the University.

6. BACTERIOLOGY FOR SANITARY ENGINEERS.—Bacteriological methods and their application in water analysis and sewerage. *I. (last seven weeks); daily; 3, 4; (2).* Mr. WARD.

7. PLANT PATHOLOGY.—Diseases and injuries of plants. Mostly laboratory, herbarium, and field work, and assigned reading. *I.; M., W., F.; 1, 2; (3).* Professor BURRILL and Mr. .....

Required: Botany 1, 2.

8. ECONOMIC BOTANY.—Useful plants and plant products. Lectures and assigned reading. *I.; Tu., Th.; 1, 2; (2).* Professor BURRILL.

9. INVESTIGATIONS AND THESIS.—Research work upon selected subjects. Special arrangements for this work should be made during the preceding year. *I., II.; arrange time; (5).* Professor BURRILL.

Required: Botany 1, 2 and at least one year from 3, 4, 5, 7.

10. SEMINARY.—Reports and discussions upon assigned topics and results of research work. For advanced and graduate students. *I., II.; F.; arrange time; (1).* Professor BURRILL.

11. INTRODUCTORY COURSE.—Elementary work chiefly upon flowering plants, including their general structure, activities, life-relations, and classification. The laboratory work is supplemented by field observations and by the study of text. Registration is accepted for the first half, or for the whole, of the semester. The work during the first nine weeks is upon the structures and organs of plants, and upon the classification of specimens; afterward anatomy, physiology and ecology have chief attention. The first half is recorded as course 11a. The course as a whole is planned to offer general students an opportunity of gaining elementary knowledge of the vegetable kingdom. *I.; 1, 2; (2½ or 5).* Dr. HOTTES and Mr. GLEASON.

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COURSES FOR GRADUATES

101. Biological Botany.—The preparation and study of material by histological and embryological methods, and experiment work with living vegetation in the laboratory and field in working out special problems in the development, physiology, and pathology of plants.

102. Systematic Botany.—Critical and comparative studies of species included in chosen groups of spermaphytes or sporophytes, or from selected geographic areas, in connection with considerations of genealogic development, geographic distribution, and interrelated association.

103. Bacteriology.—Investigations upon morphologic and physiologic variation due to treatment; systematic studies upon the number, validity, and relationship of species, researches upon special saprophytic or parasitic kinds of bacteria and upon methods of favoring or combating their activities.

104. Evolution of Plants.—Observations and experiments upon plants and studies in related literature, in gaining information upon such topics as the following: The influence of environment, effects of self and cross fertilization, tendencies of variation, philosophy of selection, nature and laws of heredity.

CHEMISTRY

Professors Palmer and Parr; Associate Professor Grindley; Mr Sammis, Mr. Koch, Dr. Lincoln, Mr. Stark, Mr. Dehn, Mr. Schroeder, and Mr. Emmett.

1. Elementary and Experimental Chemistry.—This course deals with the general principles of the science; the commoner elements and their typical compounds are studied somewhat in detail; attention is constantly directed to the applications of chemistry in daily life and industrial processes.

The laboratory work comprises a series of such experiments, many of them quantitative, as serve best to illustrate the relations between the observed facts and the general principles, and to familiarize the student with the methods and facts of chemistry, *Richter's Inorganic Chemistry. I.; Lecture, Tu., Th., 5.*

Section A (Chem. and Med. Prep.), Lab., M., W., F., 3, 4; Quiz. M., 5; W., 5.

Section B (Agricultural, Science, Literature and Arts); Lab., Tu., Th., Sat., 3, 4; Quiz, W., 5; Sat., 2.

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Section C (Science and Literature and Arts); Lab., M., W., F., 6, 7 or 7, 8; Quiz, Tu., Th., 7.

Section D (Mech. Engineers), Lab., Tu. or Th., 6, 7, 8; Quiz, Tu., 3; Th., 3.

Section D2 (Civil Engineers), Lab., Tu., Th., 1, 2; Quiz, W., F., 2.

Section D3 (Civil, Elec. and Arch. Engineers), Lab., Tu. or Th., 6, 7, 8; Quiz, M., W., 4; for engineers (4); for all others (5). Professor PALMER, Associate Professor GRINDLEY, Mr. SAMMIS, Mr. DEHN, and Mr. SCHROEDER.

1a. MINOR COURSE—ELEMENTARY AND EXPERIMENTAL CHEMISTRY.—Similar to 1, but consisting chiefly of recitations and laboratory work. *Richter's Inorganic Chemistry. II.; Recitations, Tu., Th., S.; 1; Laboratory, M., W., F.; 1, 2 or 2, 3 (5).* Professor PALMER, Mr. SAMMIS, and Mr. DEHN.

2. DESCRIPTIVE INORGANIC CHEMISTRY.—This course is required of all chemical students. It is mainly devoted to a study of the metallic elements, their classification, compounds, and chemical properties. The work is from lectures and assigned text, without laboratory work. *Richter's Inorganic Chemistry. II.; M., W., F.; 2; (3).* Associate Professor GRINDLEY.

Required: Chemistry 1.

2a. INORGANIC PREPARATIONS.—This is a laboratory course designed to accompany the descriptive work of course 2. The work includes the precipitation, crystallization, and purification of various salts, the material being largely obtained from laboratory wastes. *Thorp's Inorganic Chemical Preparations. II.; M., W., F.; 3, 4; (2).* Associate Professor GRINDLEY and Mr. SCHROEDER.

Required: Chemistry 1.

3a. QUALITATIVE ANALYSIS.—This course includes a study of salts, their formation, solubilities, chemical reactions, etc. The periodic classification of the elements is made the basis for developing the principles of analysis. The work in the laboratory, after illustrating these principles, is occupied with the determination of basic and acid constituents of a given number of unknown substances. Analysis is also made of more complex substances, including natural and commercial products; and the work concludes with a comparative study of methods, difficult separations and problems in synthesis. *I.; daily; 1, 2; (5). II.; Lecture, Tu., Th.; 2; Laboratory, daily; section A, 3, 4; section B, 6, 7 or 7, 8; section C, M., W., F., 6, 7, 8; (5).* Associate Professor GRINDLEY, Mr. SAMMIS, Mr. DEHN, and Mr. SCHROEDER.

Required: Chemistry 1.

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3b. QUALITATIVE ANALYSIS, MINOR.—Same as 3a, but requiring the first half of the semester. *II.; Lecture, Tu., Th.; 3; Laboratory, daily, including Sat.; 3, 4; (2½).* Associate Professor GRINDLEY, Mr. SAMMIS, Mr. DEHN, and Mr. SCHROEDER.

Required: Chemistry 1.

4. ELEMENTS OF ORGANIC CHEMISTRY, MINOR.—A brief course in organic chemistry provided especially for students of agriculture and general science. The work includes consideration of the general characteristics and the mutual relations of certain of the more important classes of carbon compounds, particularly the fats, the carbohydrates, and the proteids. *II. (last half); Lecture, M., W., F.; 3; Laboratory, Tu., Th.; 3, 4; M., W., F., 4; (2½).* Professor PALMER, Mr. SAMMIS, and Mr. DEHN.

Required: Chemistry 1, 3b.

5a. ELEMENTARY QUANTITATIVE ANALYSIS.—This course consists of laboratory work, lectures and recitations, and is preliminary to all other courses in quantitative analysis. The laboratory work comprises a series of experiments which illustrate the fundamental principles of gravimetric and volumetric methods. Special emphasis is placed upon the reasons for the choice of methods, the sources of experimental errors, and the means of avoiding them. Dexterity in the manipulation and in the calculating of results is developed.

The major part of the work is the same for all; but during the last few weeks the work is differentiated in order, on the one hand, to meet the needs of those students who are taking the course preliminary to medicine, and, on the other hand, to fulfill the requirements of those who expect to graduate in chemistry. Reading is assigned in Fresenius, Cairns, Ostwald, Sutton, and Blair. *I.; Lectures, Tu., Th.; 5; Laboratory, 10 periods per week in two sections. Section A, M., W.; 6, 7, 8; F.; 5, 6, 7, 8; section B, Tu., Th.; 6, 7, 8; Sat.; 1, 2, 3, 4; (5).* Dr. LINCOLN.

Required: Chemistry 1, 3a.

5b. ADVANCED QUANTITATIVE ANALYSIS.—The quantitative separation and determination of the elements are discussed systematically in the lectures, and in the laboratory more or less complicated analyses of mixed salts, silicates and other refractory materials are assigned, depending somewhat on the needs of the individual student. Results of a much higher degree of accuracy than

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those required in 5a, will be expected. *I. and II.; Lectures, M.; 2; Laboratory, 6 to 12 periods per week; (3 or 5).* Dr. LINCOLN.

Required: Chemistry 5a.

5c. FOOD ANALYSIS.—This course includes the analysis of milk, butter, food stuffs, grains, milled products, meats, alcoholic beverages, baking powders, vinegars, syrups, sugars, etc. Students who have taken work amounting to five hours' credit in this course may arrange to do more advanced work along the following lines: (a) the study of methods for detecting food adulterations; (b) the separation and determination of the nitrogenous constituents of animal and vegetable foods; (c) the identification and estimation of the carbohydrate constituents of food products. *II.; Lecture, Tu.; 6; Laboratory, 6 to 12 periods per week; arrange time; (3, 5, 8 or 10).* Mr. KOCH.

Required: Chemistry 5a.

6a. CHEMICAL TECHNOLOGY.—This is a course of lectures comprising a study of technological chemistry as illustrated in those industries having a chemical basis for their principal operations and processes. Much use is made of the journals. *Thorp's Industrial Chemistry* is used as a guide. No laboratory work. *I.; Tu., Th.; 3; (2).* Professor PARR.

Required: Chemistry 5a.

6b. METALLURGY.—Special attention is given to the effect of impurities in ores upon metallurgical processes and finished products. Fuels, refractory materials, and fluxes are described and their value and application explained. A series of lantern slides illustrating actual plants in operation, together with specimens of furnace material and products, are used in illustration. Much use is made of journals, annuals, and monographs setting forth the best practice. *II.; Tu., Th.; 2; (2).* Professor PARR.

Required: Chemistry 5a; Mineralogy.

7a. ELEMENTARY PHYSICAL CHEMISTRY.—This course, extending through one semester, is designed to give an elementary knowledge of the paramount facts of physical chemistry, and their relation to common and practical chemical problems. The instruction is by lectures and recitations, supplemented by work in the laboratory. *Walker's Introduction to Physical Chemistry. II.; Lectures, Tu., Th.; 4; Laboratory, 4 periods per week, Tu., Th.; 6, 7; (3).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

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7b. PHYSICAL CHEMISTRY.—This is a general course of lectures and recitations extending throughout the year, and is designed for those students of chemistry and physics who desire more extensive work than course 7a affords. The work includes a qualitative study of chemical equilibrium, the application of the Mass Law, the theories of solutions, the relation of chemical and physical properties to constitution. velocity of reactions, thermo-chemistry, electro-chemistry, etc. A knowledge of differential calculus is desirable. It is recommended that this course be supplemented by laboratory work (Course 7c) at least three hours a week. *Walker's Introduction to Physical Chemistry,* supplemented by assigned readings. *I. and II.; Lectures, M., F.; arrange time; (4).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

7c. PHYSICAL CHEMISTRY.—A laboratory course supplementary to course 7b. The work consists of a series of experiments, chosen to familiarize the student with the general methods used in technical and theoretical work, the sources of error and the methods of eliminating the same. It comprises a study of the balance, physical properties—density, rotation of the plane of polarized light, refraction, etc.,—thermometry, distillation and crystallization, molecular weight determinations, thermo-chemical and electro-chemical measurements, reaction, velocities, etc. *I. and II.; Laboratory, 9 to 15 periods; arrange time; (3-5).* Dr. LINCOLN.

Required: Chemistry 5a, 9.

7d. ELECTRO-CHEMISTRY.—Lectures and recitations. This course is a historical treatment and includes the modern theories of solutions and their application to electro-chemical processes. It also comprises electro-chemical syntheses—including oxidations and reductions of organic and inorganic substances and a detailed study of the conditions governing the same. Intended for students going into technical work. It is recommended that this course be supplemented by laboratory work (Course 7e). *Leblanc's Electro-Chemistry. I. and II.; Lectures; arrange time; (2).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

7e. ELECTRO-CHEMISTRY.—Laboratory work to accompany lecture course 7d. This course is intended for students going into technical work and for engineers. The work comprises electro-chemical measurements, oxidations and reductions, special emphasis being placed upon a study of the factors governing electrolytic syn-

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thesis of inorganic and organic bodies. *I. or II.; 6 or 15 periods; arrange time; (2-5).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

7f. SPECTROSCOPIC ANALYSIS.—This course comprises lecture work with laboratory practice. The student will do practical work with the spectroscope in determining qualitatively the constituents of various mixtures, minerals, and solutions by means of the spark, oxyhydrogen flame, and absorption spectra. *I., II.; by appointment; (2-4).* Professor PALMER and Dr. LINCOLN.

Required: Chemistry 4 or 9, 5a, 7a; Physics 1, 3.

8. IRON AND STEEL ANALYSIS.—Analyses are made of all the constituents by both rapid, or technical, and standard methods. The course also includes the analysis of furnace slags and a study of the methods for decomposing ores and refractory products. *II.: daily; arrange time; (2).* Professor PARR and Mr. KOCH.

Required: Chemistry 5a.

9. ORGANIC CHEMISTRY.—The work of this course consists in the discussion of the characteristics of the more typical and simple organic compounds, followed by a brief consideration of most of the important classes of derivatives of carbon. *Remsen's Organic Chemistry.* Must be accompanied by either 9a or 9c. *II.; M., W., F.; 7; (3).* Professor PALMER.

Required: Chemistry 2, 5a.

9a. ORGANIC SYNTHESIS AND ANALYSIS.—Laboratory work for students of the chemical course, consisting of the preparation of typical organic compounds, and ultimate organic analysis. *II.; Laboratory, 6 periods per week; arrange time; (2).* Professor PALMER and Mr. KOCH.

9b. ORGANIC SYNTHESIS AND ANALYSIS.—Continuation of 9a, to accompany Chemistry 14. *I.; Laboratory, 6 periods per week; arrange time.* Professor PALMER and Mr. KOCH.

9c. ORGANIC SYNTHESIS AND ANALYSIS.—Laboratory work in organic chemistry for students of the medical preparatory course. A few typical organic compounds are prepared, but the work consists mainly in a study of the chemical reactions and transformations of such organic substances as are especially involved in processes of nutrition or are used in medical practice. *II.; Laboratory, 6 periods per week; arrange time; (2).* Professor PALMER and Mr. KOCH.

10. SANITARY ANALYSIS.—The work consists in the examina-

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tion and analysis of potable and mineral waters, air, etc. *I.; M., W., F.; 3, 4; (2).* Mr. KOCH.

Required: Chemistry 5a or 20.

11. In the senior year a special line of work is arranged for each individual, designed particularly to develop self reliance and initiative in dealing with new problems or topics needing comparative study or review. A thesis must be prepared embodying a thorough review of the literature of the subject together with the work done in the laboratory. As far as possible the subject must be determined upon and reading begun in the junior year. A seminary is arranged for reports and discussion. A minimum of five semester hours is required. *I., II.; arrange time; (5).* Professors PALMER and PARR and Associate Professor GRINDLEY.

12. THEORETICAL CHEMISTRY.—A brief historical survey of the development of the science, from the earliest times to the present. The course includes the discussion of the evolution of ideas concerning fundamental principles, laws and theories of chemistry, description of the applications of chemistry in related sciences, and the growth of important chemical industries. Lectures and assigned reading. *II.; M., W.; 2; (2).* Professor PALMER.

Required: Chemistry 4 or 9, 5a, 7a.

13a. AGRICULTURAL ANALYSIS.—This course is arranged to meet the special wants of agricultural students. The work begins with the quantitative determination and separation of the more important constituents of soils, fertilizers and agricultural products; it includes the chemical analysis of foodstuffs, such as grains, fodders, dairy products and meats, as well as the analysis of fertilizers and soils. *I.; 3. 4; (5).* Associate Professor GRINDLEY and Mr. KOCH.

Required: Chemistry 3a or 3b, 4.

13b. ADVANCED AGRICULTURAL ANALYSIS.—This course is offered to students who wish to specialize in agricultural chemistry or agricultural experimentation. The work includes the analysis of butter and cheese, the complete analysis of foods, soils, plants, plant ash, rain and drain waters, and the determination of the fuel value of foods. If desirable the work may be varied to meet the special needs of the individual student. *II.; daily; 7, 8; (3-5).* Associate Professor GRINDLEY and Mr. KOCH.

Required: Chemistry 5a, or 13a.

14. ORGANIC CHEMISTRY.—Special chapters of organic chemis-

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try. *Richter's Organic Chemistry.* Must be accompanied by 9b *I.; M., W., F.; 3; (3).* Professor PALMER.

Required: Chemistry 9.

15. (a) and (b) METALLURGICAL CHEMISTRY.—This course includes (a) the wet assay of copper, lead, zinc, and other ores, arsenical and complex as well as the simpler forms; also the analysis of finished metallurgical products, as commercial lead, spelter, copper, etc.; during the last half of the term the work is occupied with (b) the fire assay of lead, gold and silver ores. Fluxes, reagents, and charges are studied in connection with various typical ores, and practice given in use of the crucible and muffle furnaces and in the manipulations connected with fire assaying. *I.; arrange time; (2 each).* Professor PARR and Mr. KOCH.

Required: Chemistry 5a; Geology 5.

15. (c) and (d). ELECTRO-CHEMICAL ANALYSIS.—A study (c) of methods and practice in quantitative determination by electrolytic separation and decomposition of metals and compounds, and (d) a study of the methods employed in the electrolytic separation and refining of metals, treatment of ores, etc. *II.; arrange time; (1 to 3).* Professor PARR and Mr. KOCH.

Required: Chemistry 15a.

16. CHEMISTRY FOR ENGINEERS.—This course is arranged particularly for mechanical engineers. It involves the proximate analysis of coals, determination of calorific power, technical analysis of furnace gases, examination of boiler waters, lubricating oils, etc. *II.; lecture, F.; 2; Laboratory section A. M., Tu., Th.; 2 3; section B, Th., 2, 3, 4; F.; 3, 4; (3).* Professor PARR and Mr. SCHROEDER.

Required: Chemistry 1.

17. INDUSTRIAL CHEMISTRY.—A laboratory course in the preparation of chemical products from raw materials. The manufacture and proving of pure chemicals, fractionation, and other processes of the manufacturing chemist. *II.; arrange time; (2).* Professor PARR.

Required: Chemistry 5a.

18. SPECIAL COURSES.—Special courses as indicated below, consisting mainly of laboratory work, may be arranged for those competent to pursue them. From 1 to 10 hours' credit will be allowed in the undergraduate courses for such work.

(a). Technical Gas Analysis. Qualitative and quantitative analyses of gases and gas mixtures, including use of all the important forms of modern apparatus for rapid and accurate work. *Hem-*

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tel's Gas Analysis. I.; Lecture, M.; 2; Laboratory; arrange time; (1-3). Dr. LINCOLN.

(b). Advanced Metallurgical Chemistry. Professor PARR.

(c). .....

(d). Analysis of paints, oils, and varnishes. *Arrange time.* Professor PARR.

(e). Analysis of commercial fertilizers. *Arrange time; (1-2).* Mr. KOCH.

19. SEMINARY.—Reports and discussions upon assigned topics from current chemical literature. One session each fortnight. *I., II.; S.; 2; (1).* Professor PALMER.

20. QUANTITATIVE ANALYSIS.—An elementary course intended especially for such students of other departments as desire some training in the process of quantitative analysis, but have not the time or the opportunity to enter the regular course in this subject. The laboratory work is practically the same as that offered in course 5a; but the selection of exercises may vary according to the needs of the individual student. *I., or II.; arrange time; (2-5).* Dr. LINCOLN.

Required: Chemistry 1, 3a or 3b and 4.

21. PROXIMATE ORGANIC ANALYSIS.—Analysis and valuation of various commercial organic materials and products: (a) Pharmaceutical assaying, including the valuation of drugs and various pharmaceutical preparations, tinctures, extracts, etc., etc.; (b) analysis of proprietary articles, medicines, pills, ointments, salves, etc.; (c) fats, waxes, oils, perfumes, flavoring extracts; (d) dyestuffs. Analysis, tests and identification of raw materials, coloring matters and dyes upon the fiber; (e) rubber, paper, fibers, inks, glue, etc. *Allen's Commercial Organic Analysis, Sadtler and Trimble's Pharmaceutical Chemistry. I. or II.; arrange time; (5 or 10).* Professor PALMER and Mr. KOCH.

22. .....

23. .....

24. TOXICOLOGY.—Mainly laboratory work upon the detection and estimation of the more common poisons, organic and inorganic, wall papers, etc. *I., II.; daily; 6, 7; (5).* Professor PALMER and Mr. KOCH.

Required: Chemistry 2, 3b, 5a, and either 4 or 9.

25. URINALYSIS.—Chemical and microscopic examination of

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urine. *I. or II.; Laboratory 6 periods, arrange time; (2).* Mr. PROHASKA.

Required: Chemistry 2, 3b, 5a.

COURSES FOR GRADUATES

101. ORGANIC CHEMISTRY.—Special investigations in the aliphatic or in the aromatic series.

102. INORGANIC CHEMISTRY.—Research work in general inorganic chemistry, including the critical and constructive study of methods of analysis, both quantitative and qualitative.

103. PHYSICAL CHEMISTRY.—Investigation of special problems, including thermo-chemical research.

104. CHEMISTRY OF FOODS.—Investigations of the composition, fuel value, digestibility, and dietary value of foods, and the chemical changes involved in cooking.

105. AGRICULTURAL CHEMISTRY.—Special investigations in the field of agricultural chemistry, including the chemistry of plants, foods, soils, and rain, drain, and ground waters.

106. RESEARCH IN METALLURGICAL CHEMISTRY.—(a) Action of solvents in extraction of gold and silver from their ores. (b) Methods of analysis of ores and products.

107. INVESTIGATION OF WATER SUPPLIES.—In connection with State Water Survey.

108. INVESTIGATION OF FUELS.—

(a) Heating power, calorimetric methods.
(b) Adaptation of bituminous coal to gas manufacture, purification of products.
(c) Coke and by-products.

109. SPECIAL PROBLEMS IN INDUSTRIAL CHEMISTRY.—

(a) Corrosion and scaling of steam boilers.
(b) Purification of feed waters.
(c) Cements and mortars.
(d) Paints and pigments.

CIVIL ENGINEERING

Professor BAKER, Assistant Professor KETCHUM, Mr. KUEHN, Mr. TALLYN, Mr. KIRKPATRICK.

4. RAILROAD ENGINEERING.—In the field practice the class makes preliminary and location surveys of a line of railroad of

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sufficient length to secure familiarity with the methods of actual practice. Each student makes a complete set of notes, maps, profiles, calculations, and estimates. The principles of economic location and the construction of railways are considered. A study is made of railway appliances and of maintenance-of-way practice. *Nagle's Field Manual for Railroad Engineers, and Tratman's Track. I.; section A, Tu., Th., S.; 2, 3, 4; W., F.; 2; section B, M., W., F.; 6, 7, 8; Tu., Th.; 6; (5).* Mr. KUEHN.

Required: Civil Engineering 21, 22, 23.

4a. RAILROAD ENGINEERING.—The first eleven weeks of course 4 are for students in municipal and sanitary engineering. *(3).*

5. MASONRY CONSTRUCTION.—The students have experiments in the masonry laboratory, in testing cement, mortar, stone, and brick. *Baker's Masonry Construction. I.; Tu., W., Th., F.; 1; Laboratory, M. or F.; 6, 7, 8; (5).* Professor BAKER.

Required: Theoretical and Applied Mechanics 2; General Engineering Drawing 1, 2.

10. SURVEYING.—For students in the courses of architecture, architectural engineering, electrical engineering, and mechanical engineering. Areas with chain and compass, U. S. public land surveys, and principles of reëstablishing corners; use of transit in finding distances, areas, and in laying out buildings; use of the level in finding profiles and contours. *Pence and Ketchum's Surveying Manual. II.; section A (for Mech. Eng'rs), M., Tu., W.; 3, 4; section B (for Arch. and Arch. Eng'rs), Th., F., S.; 3, 4; (3).* Mr. KUEHN.

Required: Math. 4; General Engineering Drawing 1, 2; Physics 1, 3.

12. BRIDGE ANALYSIS.—Instruction and practice are given in the computation of the stresses in the various forms of bridge trusses, by algebraic and graphical methods, under different conditions of loading. *Johnson's Modern Framed Structures. I.; Tu., W., Th., F.; 2, 3; (4).* Assistant Professor KETCHUM.

Required: Theoretical and Applied Mechanics 2; Civil Eng'g 20.

13. BRIDGE DETAILS.—The student makes a tracing of a shop drawing of a bridge, and then makes a critical report upon each element of the design and computes the cost. Afterward a comparative study is made of the several forms of details employed by leading designers. *I.; M.; 1, 2, 3; (1).* Assistant Professor KETCHUM.

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Required: Civil Eng'g 12 and free-hand sketches, with dimensions, showing full details of a bridge measured by the student.

14. BRIDGE DESIGN.—Each student designs a bridge, proportioning the sections and working out the details, and afterward makes a complete set of drawings. *II.; daily; 1, 2, 3; (5).* Assistant Professor KETCHUM.

Required: Civil Engineering 12, 13.

14a. BRIDGE DESIGN.—Part of course 14 above for Municipal and Sanitary Engineering students. *II.; M.; 1; Tu., W., Th., F.; 1, 2; (3).*

16. ENGINEERING CONTRACTS AND SPECIFICATIONS.—A study is made of the fundamental principles of the law of contract, and of examples of the general and technical clauses of various kinds used in engineering specifications. *Johnson's Engineering Contracts and Specifications. II.; W., F.; 4; (2).* Professor BAKER.

Required: Civil Engineering 5, 12, 13; Municipal and Sanitary Engineering 2, 3.

18. TUNNELING.—A study is made of the principles of tunneling, and of the practice of the more noted tunnels. *Prelini's Tunneling. II.; Tu., Th.; 6; (2).* Mr. KUEHN.

Required: Mechanical Engineering 1, 16, 17; Chemistry 1; Physics 1, 3; Theoretical and Applied Mechanics 2; Civil Eng'g 5.

19. RAILROAD STRUCTURES.—Instruction is given by lectures and references to standard authorities. Current practice is studied by the examination of existing structures and by means of a collection of the standard drawings of leading railroads. *II.; section A, M.; 6, 7, 8; section B, F.; 6, 7, 8; (1).* Mr. KUEHN.

Required: Civil Eng'g 4; Theoretical and Applied Mechanics 1, 2.

20. GRAPHIC STATICS.—Elements of graphic statics and applications in designing structures. *II.; section A, Tu., F.; section B, M., Th.; 6, 7; (2).* Assistant Professor KETCHUM.

Required: Math. 2, 4, 6; Theoretical and Applied Mechanics 1, 2.

21. SURVEYING.—Instruction is given by means of recitations, lectures, field and office work in the theory, use and adjustment of the compass, level transit, plane table, and sextant. The field work includes the determination of distances by pacing and with the chain and tape; the determination of areas with the compass; tran-

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sit and plane table; the finding of profiles with the level. A careful study is made of the U. S. land survey methods, and court decisions relating to the re-establishment of corners, boundaries, etc. Problems are assigned in the re-location of boundaries, partition of land, interpretation of deeds and in city and farm surveying. Some time is devoted to topographic drawing. *Baker's Engineers' Surveying Instruments,* and *Pence and Ketchum's Surveying Manual. I.; daily; section A, 1, 2; section B, 6, 7; (4).* Mr. TALLYN, *A and B;* Mr. KIRKPATRICK, *A and B.*

Required: General Eng'g Drawing 1, 2; Math. 4.

22. TOPOGRAPHIC SURVEYING.—The theory and use of the stadia and other instruments used in making a topographic survey are considered, as are also the methods of topographic surveying. A complete topographic survey based on a system of triangulation is executed, including the calculations, and platting and completing the map. Some time is given to the precise measurement of bases and angles. Instruction is given in blue-printing and duplicating drawing. *Wilson's Topographic Surveying, and Pence and Ketchum's Surveying Manual. II.; M., Tu., W., Th.; section A, 1, 2; section B, 6, 7; (4).* Mr. TALLYN, *A and B;* Mr. KIRKPATRICK, *A and B.*

Required: Civil Eng'g 21; Gen. Eng'g Drawing 1, 2; Math. 4.

23. RAILROAD CURVES.—A study is made of the geometry of the circle as applied to railroad curves and of the methods of locating curves in the field. *Nagle's Field Manual for Railroad Engineers. II.; F.; section A, 1, 2; section B, 6, 7; (1).* Mr. TALLYN, *A and B;* Mr. KIRKPATRICK, *A and B.*

Required: Civil Eng'g 21, 22; Gen. Eng'g Drawing 1, 2; Math. 2, 4.

24. METAL STRUCTURES.—A study is made of mill buildings, railroad trestles, mine structures, grain elevators, etc. *I.; Tu., Th.; 6, 7, 8; (2).* Assistant Professor KETCHUM.

Required: Civil Eng'g 12, 13, 19, 20.

30. THESIS.—The preliminary work on the thesis is begun during the first semester, and a written report of progress is required on the first Monday of December and January; but no special time is set apart on the program nor is any credit granted for thesis work during this semester. In the second semester weekly conferences are required, and a credit of one semester hour is granted for thesis work; but the preparation of the thesis is expected to require much more time than a one semester hour subject. *II.; W. or F.; 6 or 7, as assigned; (1).* Professor BAKER.

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COURSES FOR GRADUATES

All primary unless otherwise stated.

101. Location and Construction.
102. Railway Track and Structures, and their Maintenance.
103. Yards and Terminals.
104. Motive Power and Rolling Stock.
105. Signal Engineering.
106. Railway Operation and Management.
107. Bridge Designing.
108. Cantilever and Swing Bridges.
109. Metallic Arches.
110. Metallic Building Construction.
111. Roof Construction.
112. Stereotomy.
113. History of the Development of Bridge Building—Secondary.
128. Practical Astronomy.
129. Description of Work Done.
130. Critical Description of Engineering Construction.
131. Translation of Technical Engineering Works from French or German.
132. Any Primary in Theoretical and Applied Mechanics or Municipal and Sanitary Engineering.
133. Any Primary in Mathematics, Mechanical Engineering, or Electrical Engineering—Secondary.
134. Indexing of Civil Engineering Periodical Literature—Secondary.

COMPARATIVE LITERATURE AND PHILOLOGY

Professors BARTON, MOSS, DODGE, RHOADES, FAIRFIELD, and Dr. NEVILLE.

1. GREEK LITERATURE—From English readings. This course must be taken as Greek 17, which see.

2. LATIN LITERATURE IN ENGLISH.—This course must be taken as Latin 12, which see.

3. DEVELOPMENT OF THE DRAMA.—Study of the Greek, Roman, English, French, and German drama, in English. The work will be by lectures, with outside reading. *I.; Tu., Th.; 8; (2).* Professors MOSS, BARTON, DODGE, FAIRFIELD, and RHOADES.

Required: One year of University work.

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4. General Introduction to the Science of Language.—The essential principles of the life and growth of language; outlines of the science of phonetics; classification of languages; characteristics of the various branches of the Indo-European family of languages; Indo-European phonology. *I.; Tu., Th.; 5; (2).* Dr. Neville.

Required: Latin 3, Greek 4, German 1, or French 1.

5. Historical Latin Grammar.—Historical treatment of inflections and sounds of Latin in its relation to the other Indo-European languages. *II.; Tu., Th.; 5; (2).* Dr. Neville.

Required: Latin 5; Philology 3.

6. History of Classical Philology.—*II.; M.; 3; (1).* Dr. Neville.

Required: Latin 1; Greek 4.

DAIRY HUSBANDRY

Mr. Fraser, Mr. Erf, and Mr. Glover.

1. Milk.—The character and composition of normal milk; standardizing milk and cream; proper precautions to prevent contamination; the care and uses of milk; practice with the Babcock test and the lactometer, supplemented by lectures and reference readings, and by laboratory experiments upon contamination of milk. *I.; M., W., F.; 6, 7, 8; (5).* Mr. Erf and Mr. Glover.

2. Dairy Cattle.—The cow as a factor in the economic production of milk, butter and cheese; difference in the efficiency of individual animals; establishment of the dairy herd by selection and grading with pure bred sires; the principal characteristics of the dairy cow, with extensive practice in judging; the various breeds adapted to dairy purposes, their history and characteristics, with practice in judging by both dairy and breed standards. *I.; Tu., Th.; 1, 2; (2).* Mr. Fraser.

3. Dairy Farm Management.—Soiling and pasturing dairy cows; crops adapted to the dairy farm, and best methods of converting these into milk; the place and value of the silo on the dairy farm and the best methods of handling and feeding ensilage; a study of the best and most economical systems of feeding, together with the care and raising of calves; housing and general care of the herd; arrangement, ventilation, and care of dairy barn. *I.; M., W., F.; 1; (3).* Mr. Fraser.

4. Cream Separation.—A critical study of different systems of

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cream separation as to rapidity and efficiency, and the comparison of different machines, especially centrifugal separators; designed to be taken in conjunction with course 5. *II.; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

5. BUTTER MAKING.—Ripening the cream; churning, working, packing, and scoring of butter; designed to be taken in conjunction with course 4. *II.; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

6. CHEESE MAKING.—Practice in setting milk, cutting and cooking the curd and pressing and curing cheese. One-half of the time will be devoted to the manufacture of Cheddar cheese and the remainder to fancy cheeses, as Swiss, Edam, Gouda, cottage, etc. *I.; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (5).* Mr. ERF.

7. FACTORY MANAGEMENT.—Coöperative and company creameries and cheese factories; planning construction, equipment, and operation of plants, including care of engines, boilers, and refrigerating machines; a study of the construction and different insulations of creamery refrigerators both for natural and mechanical means of refrigeration; also practice in pipe cutting and soldering. *II.; M., W., F.; 6, 7; (3).* Mr. ERF.

8. CITY MILK SUPPLY.—Sources of milk, together with methods of shipping, handling, and distributing, and of securing a healthful product for large cities. *II.; Tu., Th.; 1, 2; (2).* Mr. GLOVER.

9. COMPARATIVE DAIRYING.—A study of the dairy systems and practice of different countries, including the care and management of dairy cattle. The principal dairy products of the different countries and the methods of handling and sale, particularly the preparation of milk for direct consumption. The more important conditions, historical and present, and local and inherited influences affecting dairy practices. Recitations, reference readings, and illustrated lectures. *I.; M., W., F.; 2; (3).* Mr. FRASER.

10. DAIRY HUSBANDRY MINOR.—A study of the composition and variations of milk; detection of adulterations by means of the Babcock test and lactometer; standardizing milk and cream; methods of detection of impure and unwholesome milk; where and to what extent milk becomes contaminated and methods of prevention; scoring of butter and cheese. This course is required for graduation of all students in Agriculture who do not take more extended courses in Dairy Husbandry. *I.; M., W., F.; 3; (3).* Mr. ERF and Mr. GLOVER.

11. DAIRY BACTERIOLOGY.—A careful study of the distribution

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of bacteria as determined by a bacteriological analysis of air in the open field, dairy rooms, and dairy barns under different conditions, showing where and to what extent milk may become contaminated through the air and from the cow during the process of milking and subsequently; also how this contamination may be largely avoided by proper methods. The effect of bacteria on milk and on the rapidity with which it sours after being produced under different degrees of cleanliness and held at different temperatures. The part that bacteria play in the ripening of cream and making of butter and in the manufacture and ripening of cheese. *I.; daily; 6, 7; (5).* Mr. FRASER.

12. INVESTIGATION AND THESIS.—Subject arranged with instructor. *(5 to 10).* Mr. FRASER and Mr. ERF.

13. FANCY PRODUCTS.—The manufacture of koumiss and primost and of different grades of ice cream. A study of the modifications of milk. *II.; M., W., F.; 1, 2; (3).* Mr. ERF.

DRAWING, GENERAL ENGINEERING

Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

1a. LETTERING.—Plain and ornamental alphabets; free-hand and mechanical lettering; titles and title pages. *Reinhardt's Lettering. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

1b. ELEMENTS OF DRAFTING.—Geometrical constructions; orthographic, isometric, and cabinet projections. *Tracy's Mechanical Drawing. I.; alternate days; 1, 2, 3 or 6, 7, 8; (3).* Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

Required: Drawing, General Engineering 1a.

1c. SKETCHING AND WORKING DRAWINGS. Architectural sketch plans and details; bridge details; machines, machine parts, and mechanisms; working drawings; drawings finished in color and right line shading. Lectures on drafting instruments, materials; computing instruments; office methods, and reproduction processes. *Lectures and notes. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

Required: Drawing, General Engineering 1a, 1b.

2. DESCRIPTIVE GEOMETRY.—Problems relating to the point, line, and plane. The generation and classification of lines and surfaces; planes tangent to surfaces of single and double curvature; intersections, developments, and revolutions. *Church's Descriptive Geom-*

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etry. II.; alternate days; 1, 2, 3 or 6, 7, 8; (5). Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

Required: Drawing, General Engineering, 1a, 1b, 1c.

3. ADVANCED DESCRIPTIVE GEOMETRY.—For students making a specialty of mathematics. Curved lines of the higher orders; higher single curved, warped, and double curved surfaces. *Church's Descriptive Geometry,* with references to *Warren's General Problems from the Orthographic projections of Descriptive Geometry. II.; arrange hours.* Assistant Professor PHILLIPS.

Required: Drawing, General Engineering, 2 or 4.

4. DESCRIPTIVE GEOMETRY.—For students making a specialty of mathematics. This course is the same as course 2, without plates. *Church's Descriptive Geometry. II.; alternate days; 1, 2, 3 or 6, 7, 8; (3).* Assistant Professor PHILLIPS, Mr. COFFEEN, and Mr. MILLAR.

Required: Drawing, General Engineering, 1b.

ECONOMICS

Professor KINLEY, Assistant Professor HAMMOND, and Dr. WESTON.

10. ENGLISH ECONOMIC HISTORY. This course, which begins with the Norman Conquest, traces the economic development of a great commercial and industrial nation to the present time. Special attention is directed to the evolution of modern industrial institutions. The course is open without previous requirement, and is required of all students in the political science group. *I.; T., Th., 5; (2).* Dr. WESTON.

16. THE ECONOMIC HISTORY OF THE UNITED STATES.—This course is an inquiry into the trend of our development and into the physical, economic, and political forces which have directed and controlled it. The physical conditions under which our people have worked, the movement and character of our population, the interaction of our political and our economic life, our position in the world's industry and commerce, the problem of territorial expansion in its relation to our industrial and commercial growth, are some of the topics discussed. In the latter part of the course attention is given to the history of some special industries, as the iron and steel industry, cotton manufacture, shipping question, etc. *II.; T., Th., 5; (2).* Professor KINLEY. [Not given in 1902-03.]

1. PRINCIPLES OF ECONOMICS.—This course is introductory to the more advanced courses. Attention is confined to the underlying

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principles of the science. *I.; M., W., F.; section A, 5; section B, 7; (3).* Assistant Professor HAMMOND.

Required: At least twenty-eight hours of University work.

2. PRINCIPLES OF ECONOMICS.—This is a course in general economics offered primarily to junior and senior students of high standing in the colleges of agriculture, engineering, science, and law. Emphasis is laid on the practical side of economic questions. *II.; T., Th.; section A, 5; section B, 7; (2).* Dr. WESTON.

Required: Two years of University work.

3. MONEY AND BANKING.—This course is devoted (1) to an elementary study of the history and theory of money and banking, with special reference to the United States; (2) to the consideration of special topics of a more difficult character in the theory of prices, the "money market" and the foreign exchanges, government paper money, etc. *II.; M., W., F.; 5; (3).* Professor KINLEY.

Required: Economics 1 or 2.

4. FINANCIAL HISTORY OF THE UNITED STATES.—This course deals with the growth and management of the national debt, national taxation and monetary policy. The first semester is devoted to a general study of the main points in this history, from the adoption of the constitution. The second semester is taken up with a detailed study of particular periods. *I., II.; Tu., Th.; 5; (2).* Professor KINLEY.

Required: Economics 1 or 2. [Not given in 1902-03.]

5. PUBLIC FINANCE.—This course consists of a critical comparative study of financial theories and methods. Special attention is directed to American conditions. Public expenditure and its relation to the various sources of revenue; taxation, its theory, incidence, and methods; public debts, financial administration, and budgetary legislation, are among the subjects discussed. *II.; M., W., F.; 2; (3).* Assistant Professor HAMMOND.

Required: Economics 1 or 2.

6. TAXATION.—A detailed study of state and local taxation in the United States. *I., II.; Tu., Th.; arrange time; (2).* Assistant Professor HAMMOND.

Required: Economics 5.

8. THE TRANSPORTATION PROBLEM.—This course deals with the problems of transportation, especially by railways, in their economic and social aspects. A comparative study is made of the development, management, and regulation of railways in Europe and the

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United States. Special attention is given to the problem of rate-making. Lectures, reports, and discussions. *II.; M., W.; 7; (2)*. Assistant Professor HAMMOND.

Required: Economics 1 or 2. [Not given in 1902-03.]

12. THE LABOR PROBLEM.—This course is a study of the labor movement and its social significance. The progress of the laboring classes, the legal relations of employers and employed, wages, strikes, arbitration, labor organizations, and similar topics, are studied, and serve to show the general character of the course. Readings, lectures, and quizzes. *I.; M., W., F.; 5; (3)*. Professor KINLEY.

Required: Economics 1 or 2.

14. THE DISTRIBUTION OF WEALTH.—This course deals with the problem of distribution both in theory and practice. The facts of distribution of wealth and of income are first discussed, and attention is then turned to a comparison of theories of wages, interest and profits. An attempt is made to show the relation of the existing distributive process to social prosperity and progress. *I., II.: Tu., Th.; 7; (2)*. Professor KINLEY.

Required: Economics 1 and 10, or 2 and 10. [Not given in 1902-03.]

15. CHARITIES AND CORRECTIONS.—This course begins with the history of poor relief in Europe and the United States. As full a discussion of the various methods of reform and prevention is given as the time will permit. *I.; Tu., Th.; 2; (2)*. Assistant Professor HAMMOND.

Required: Two years of University work.

17. SOCIOLOGY.—This course comprises an elementary presentation of social principles and phenomena, and a brief discussion of some of the recent theories advanced to explain the growth and structure of society. *II.; Tu., Th., 2; (2)*. Assistant Professor HAMMOND.

19. ECONOMIC SEMINARY.—Advanced students are formed into a seminary for investigation and for the study of current economic literature. Students who write their theses in economics must do so in connection with the seminary work. *I., II.; arrange time; (4 for the year)*. Professor KINLEY, Assistant Professor HAMMOND, and Dr. WESTON.

21. SOCIALISM AND SOCIAL REFORM.— A study of the nature of socialism, and its strength and weakness as a scheme for the pro-

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duction and distribution of wealth, with an historical and critical examination of socialistic theories and propositions for social reform put forward during the nineteenth century. *I.; M., W., F.; 7; (3).* Dr. WESTON.

Required: Economics 1 or 2.

23. MODERN INDUSTRIAL ORGANIZATION.—After a brief review of the changes characterizing the industrial revolution, a study is made of the development of the corporation as a form of business organization, of industrial combinations and centralization in industry, of monopolized industries, and of the efficiency of competition as a regulating force. Attention is paid throughout the course to questions relating to the organization of the market, industrial crises, and the function of speculation in industry. *I.; M., W., F.; 7; (3).* Dr. WESTON.

Required: Economics 1 or 2, and 10 or 16.

24. STATISTICS.—This is a course in descriptive statistics, intended to familiarize students with the statistical literature of economics. The course may be taken by itself, but is better taken with the first half of course 25. *II.; Tu.; 7; (1).* Assistant Professor HAMMOND.

Required: Any elementary course in economics.

25. STATISTICS.—This course is the same as mathematics 26, where the description is given. Students of economics should take this course and 24 together. Those who do not wish the mathematical theory of probability may drop out of the class when that part of the subject is reached. For them the mathematical requirement for entrance will not be enforced, and courses 24 and 25 will count for 4 hours' credit. All who take the course must take both parts of it, as described under mathematics 26, which see.

26. HISTORY OF ECONOMIC THOUGHT.—This course takes up the history of the development of economic theory since the sixteenth century. *I., II.; Tu., Th.; 5; (2).* Professor KINLEY.

Required: Economics 1 or 2, and one other course.

27. ECONOMIC PROBLEMS.—This course is intended to give students a brief survey of a number of problems of the day, such as banking reform, strikes, railway regulation, trusts and taxation. It serves well as an introduction to the more advanced courses. *II.; M., W., F.; 7; (3).* Assistant Professor HAMMOND.

Required: Economics 1 or 2.

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COURSES PRIMARILY FOR GRADUATES

101. THE THEORY OF VALUE.—This is an historical and critical study of theories of value.

102. Research courses suited to the needs of particular students.

EDUCATION

Professor DEXTER, Assistant Professor BROOKS, and Assistant Professor COLVIN.

1. PRINCIPLES OF EDUCATION.—The basis for a scientific theory of education, critically considered, from the standpoint of the individual in his relation to the mass. The developing powers of the child are here studied in their bearing upon social efficiency. The more general problems of genetic psychology are considered, as well as those essential to the theory and art of teaching. The problems of school education. The making of a course of study. Interrelation of school studies. Method in teaching. The recitation. Examinations. Grading and promotion. The various branches, considered as school subjects. Lectures, essays, and recitations. *I.; daily; 2;* (*5*). Professor DEXTER.

Required: Two years of University work.

2. HISTORY OF EDUCATION.—The development of educational theory and practice in their relation to the history of civilization. The educational problems of the earliest culture nations. The old and Latin-Greek education. Ideals and methods at Rome. The early Christian schools. Significance of scholasticism. The growth of the universities. The reformation and its results. The lives and influence of Luther, Erasmus, Milton, Locke, Comenius, Sturm, Rosseau, Pestalozzi, Froebel, Herbart, Spencer, and Horace Mann. *II.; daily; 2;* (*5*). Professor DEXTER.

Required: Two years of University work.

3. GENERAL METHOD.—Application of the principles of education to the art of teaching; an examination of De Garmo's "Essentials of Method" and McMurry's "Method of the Recitation," with related topics. *I.; M., W., F.; 3;* (*3*). Assistant Professor BROOKS.

Required: Education 1.

4. CONTEMPORARY EDUCATIONAL CONDITIONS AND MOVEMENTS IN THE UNITED STATES.—In this course are studied critically the educational tendencies of to-day. Besides the broader meaning of

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the whole movement, the school systems of our larger cities and towns are carefully studied. *I.; Tu., Th.; 4;* (*2*). Professor DEXTER.

Required: Education 1 or 2.

5. A COMPARATIVE STUDY OF THE SECONDARY SCHOOLS OF FRANCE, GERMANY, ENGLAND, AND AMERICA.—In this course are considered the French Lycées, the German Gymnasia, the English Board, Public, and Church Schools, and the American Academies and High Schools. Their resemblances and differences are carefully noted as well as the conditions which have led up to each. *II.; Tu., Th.; 4;* (*2*). Professor DEXTER.

Required: Education 1 or 2.

6. HIGH SCHOOL ORGANIZATION AND MANAGEMENT.—A discussion of the essential elements of a good high school, together with a consideration of the conditions existing in Illinois as determined by the work of high school visitation; proposed solutions of the many problems of secondary education; desired lines of progress; building up of an accredited high school; equipment; program making; courses of study; electives; discipline. *I.; M., W., F.; 7;* (*3*). Assistant Professor BROOKS.

Required: Education 1.

7. SPECIAL METHODS IN SCIENCE AND MATHEMATICS.—Position of science in the curriculum; discussion of general methods in science; special methods with reference to botany, zoölogy, physics, chemistry, and other sciences, in so far as time will allow; laboratory equipment; purchasing of apparatus; selection and use of material; use of laboratory manuals; text-books; discussion and illustration of methods in algebra and geometry. *I.; Tu., Th.; 3;* (*2*). Assistant Professor BROOKS.

Required: Education 1.

8. SPECIAL METHODS IN LANGUAGE AND HISTORY.—The application of the general principles of method to the teaching of language and history; special methods in English composition and rhetoric and the English classics required for admission to the University; methods in language teaching, especially Latin and German; content and method in history teaching. *II.; Tu., Th.; 7;* (*2*). Assistant Professor COLVIN.

Required: Education 1 and three years of University work.

9. PSYCHOLOGY APPLIED TO THE ART OF TEACHING.—A brief course in genetic psychology, together with a critical study of the mental processes of sense perception, the formation of concepts, at-

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tention, suggestion and imitation in their relation to the teaching process. *II.; M., W.; 4; (2).* Professor DEXTER.

Required: Two years of University work.

10. SEMINAR IN EDUCATION.—The subject for 1902-1903 is *School Supervision.* The problems of the modern city superintendent from both the educational and business standpoints will be considered. Special attention is given to the problems of school architecture and sanitation. Discussions, reports, and lectures by those actively engaged in the work of superintendency. *I., II.; arrange time; (1).* Professor DEXTER and Assistant Professor BROOKS.

COURSES FOR GRADUATES

In these there is sufficient elasticity to meet the wants of individual students. Advanced work is offered in the history and in the philosophy of education, in which original sources are consulted and special periods critically studied. Experimental and statistical problems in education and child study are also directed.

ELECTRICAL ENGINEERING

Professor MORGAN BROOKS, Assistant Professor BROWNE, and Mr. MARBLE.

1. ELECTRICAL ENGINEERING.—Lectures, accompanied by laboratory practice (Electrical Engineering 21); for students in other courses of engineering and in architecture. Principles of electrical machinery, selection, installation, operation and testing, distribution and applications of electric power. *II.; Lecture, Tu., W.; 2; (2).* Mr. MARBLE.

Required: Physics 1, 3; Mathematics 9.

4. TELEGRAPHY AND TELEPHONY.—Lectures and recitations. Methods of telegraphy,—land and submarine,—the theory of the telephone, and telephone engineering. *II., second nine weeks; M., W., F.; 1; (1½).* Professor BROOKS.

Required: Physics, 4; Electrical Engineering, 16.

5. ALTERNATING CURRENTS.—Lectures and recitations. A mathematical and graphical treatment of the principles of periodic currents, with the theory of the transformer and applications to practice. *I.; Tu., Th., F.; 1, 4; (3).* Professor BROOKS.

Required: Physics, 4; Electrical Engineering, 16.

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6. ALTERNATING CURRENT MACHINERY.—Lectures on the principles of construction, operation, and characteristics, of single-phase and polyphase alternating current machinery and rotary converters. *I.; M., F.; 3; (2).* Assistant Professor BROWNE.

Required: Electrical Engineering 5 and 16.

9. ELECTRIC LIGHTING.—Manufacture and operation of arc and incandescent lamps; comparison with other illuminants; effective lighting; interior wiring; Underwriters' rules; photometry. *I.; first nine weeks; Tu., Th.; 2; (1).* Professor BROOKS.

Required: Electrical Engineering 15 and 16.

10. ELECTRIC TRACTION.—Lectures and practice. Principles and economics of construction, installation, electrical distribution, management, and testing of electric traction system; applications to surface and elevated electric roads and to mine haulage. *I.; second nine weeks; Tu., Th.; 2; (1).* Professor BROOKS.

Required: Electrical Engineering 15.

11. ELECTRIC LIGHT AND POWER PLANTS.—Lectures and practice. Principles and economics of location of site; selection, arrangement, and subdivision of generating units; installation, management, and testing of central and sub-stations for electric light, traction, mining, and manufacturing work. *II.; M., F.; 2; (2).* Professor BROOKS.

Required: Electric Engineering 6 and 16.

12. ELECTRO-METALLURGY.—Lectures on the commercial application of electrolysis; refining metals; treatment of sewage; the electric furnace; electrotyping; electro-plating. *II.; Tu., Th.; 4; (2).* Assistant Professor BROWNE.

Required: Chemistry 1; Physics 4.

13. SEMINARY.—A weekly meeting for discussion of topics from the current journals of theoretical and applied electricity. Papers on any original work doing in the department are read and discussed. A card catalog of references to the leading electrical journals is maintained by the coöperation of members of the seminary with the department. *I.; Tu.; 7, 8; II.; F.; 7, 8; (1).* I, Assistant Professor BROWNE; II, Professor BROOKS.

Required: Physics 4; Electrical Engineering 16, 22, 31.

14. ALTERNATING CURRENTS.—Lectures on the theory and applications of alternating electric currents, and alternating current phenomena. Elective for undergraduates. *II.; arrange time; (2).* Professor BROOKS.

Required: Electrical Engineering 5.

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15. ELECTRIC TRANSMISSION.—Overhead and underground line construction; economics of distribution circuits for lighting and power, direct and alternating current; electric utilization of water powers for industrial purposes; comparison with other prime movers. *I.; M., F.; 2; (2).* Professor BROOKS.

Required: Electrical Engineering 5 and 16.

16. DYNAMO-ELECTRIC MACHINERY.—Theory of the magnetic circuit; construction, operation, and characteristics of direct current dynamos and motors. *I.; II.; first nine weeks; M., W., F.; 1; (2½).* Assistant Professor BROWNE.

Required: Physics 4.

21. ELECTRICAL ENGINEERING LABORATORY.—For students in other courses of engineering and in architecture. Care, operation, inspection, and testing electrical machinery and distribution circuits. *II.; section A, M.; 6, 7, 8; section B, F.; 6, 7, 8; section C, Th.; 6, 7, 8; (1).* Assistant Professor BROWNE and Mr. MARBLE.

Required: Electrical Engineering 1 or 16.

22. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of direct current dynamos, motors, and accessory apparatus; theory and care of instruments; reduction of observations; individual and comparative tests; complete tests such as are made in the testing laboratories of representative manufacturing establishments. *II.; section A, W.; 6, 7, 8; B, Tu.; 1, 2, 3; C, Th.; 1, 2, 3; (1).* Professor BROOKS and Assistant Professor BROWNE.

Required: Electrical Engineering 16.

23. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of alternating current instruments, dynamos, motors, and transformers; regulation, efficiency, temperature, and insulation tests. *I.; Tu., Th.; 3, 4, 5; (2).* Professor BROOKS and Assistant Professor BROWNE.

Required: Electrical Engineering 22 and 6.

24. ELECTRICAL ENGINEERING LABORATORY.—Advanced direct and alternating current testing work; special problems for investigation; plant, line, and motor service testing. *II.; W.; 3, 4, 5; (1).* Professor BROOKS and Assistant Professor BROWNE.

Required: Electrical Engineering 23.

25. POLYPHASE TESTING.—Advanced course for seniors in Group I., Electrical Engineering. A critical study and investigation of polyphase machinery and systems; individual and aggregate tests.

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Elective. *II.; M.; 3, 4, 5; (1).* Professor BROOKS and Assistant Professor BROWNE.

Required: Electrical Engineering 23.

27. ELECTRICAL ENGINEERING LABORATORY.—Operation and testing of telephone and telegraph instruments; signalling; photometry. *I.; M.; section A, 4, 5; section B, 7, 8; (1).* Professor BROOKS and Assistant Professor BROWNE.

Required: Electrical Engineering 4, 9 and 16.

31. ELECTRICAL DESIGN.—Design and drafting, with supplementary lectures on the design, calculation, and construction of electromagnetic mechanisms, and dynamo-electric machines. This course is introductory to the fuller courses of the following year. *II.; M.; 6, 7, 8; (1).* Mr. MARBLE.

Required: Electrical Engineering 2, 3; Physics 4.

32. ELECTRICAL DESIGN.—Design, drafting, lectures. A continuation of the preceding. Includes the design and construction of multi-polar generators and motors, alternating current generators, motors, and transformers. *I.; W.; 3, 4, 5; II.; Th.; 1, 2, 3; (1).* Associate Professor BROWNE.

Required: Electrical Engineering 16, 6, 22, 31.

33. ELECTRICAL DESIGN.—Design and drafting. Supplements Electrical Engineering 11, and takes up the *ensemble* design of an electric light or power installation, including plans, specifications, and estimates. *II.; F.; 3, 4, 5; (1).* Professor BROOKS.

Required: Electrical Engineering 6, 9, 10, 11, 15.

COURSES FOR GRADUATES

Primary

101. Theory of Alternating Currents.
102. Dynamo-Electric Machinery.
103. Alternating Current Machinery.
104. Electrical Transmission of Power.
105. Electric Light and Power Plants.
106. Electro-Metallurgy.
107. Polyphase Testing.
108. Electrical Engineering Research.
109. Electrical Design.

Secondary

111. Theory of Equations.
112. Theory of Determinants.
113. Least Squares.

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114. Differential Equations.
115. Calculus of Variations.
116. Spherical Harmonics.
117. Potential Function.
118. Advanced Physical Measurements.
119. Mathematical Physics.
120. Mathematical Theory of Electricity and Magnetism.
121. Physical Chemistry.
122. Metallurgical Chemistry.
123. Electro-Chemistry.

ENGLISH LANGUAGE AND LITERATURE

Professor DODGE, Associate Professor JAYNE, Assistant Professor BALDWIN, Mr. PAUL.

1. GENERAL SURVEY OF ENGLISH LITERATURE.—*I.; section A, 1; section B, 2; section C, 3; section D, 6; (4).* Assistant Professor BALDWIN and Mr. PAUL.

The course is repeated the second semester the first period.

2. PROSE WRITERS OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—*II.; section A, 2; section B, 3; section C, 3; section D, 6; (4).* Assistant Professor BALDWIN and Mr. PAUL.

3. NINETEENTH CENTURY POETRY.—*I., II.; M., W., F.; 3; (3).* Associate Professor JAYNE.

Required: English 1.

4. PROSE WRITERS OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Assistant Professor BALDWIN.

Required: English 1 or 2. (The second semester may be taken without the first.)

4a. NON-DRAMATIC POETRY OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Assistant Professor BALDWIN.

Required: English 1 and 2. (Not given in 1902-1903.)

5. SHAKESPERE AND HISTORY OF THE DRAMA.—Primarily for graduates. *I., II.; M., W., F.; 2; (3).* Professor DODGE.

Required: English 1 or 2 and either 3 or 4. (The second semester may be taken without the first.)

6. HISTORY OF ENGLISH CRITICISM.—Primarily for graduates. *I., II.; Tu., Th.; 4; (2).* Professor DODGE.

Required: English 1 or 2 and either 3 or 4.

7. SEMINARY (ENGLISH FICTION).—Open only to senior and

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graduate students. *I., II.; Tu.; arrange time; (2).* Associate Professor JAYNE. (Not given in 1902-1903.)

8. OLD ENGLISH (ANGLO-SAXON) Grammar and Prose.—*I., II.; M., W., F.; 4; (3).* Professor DODGE.

9. EARLY MIDDLE ENGLISH.—*I., II.; Tu., Th.; arrange time; (2).* Professor DODGE.

10. OLD ENGLISH POETRY.—*I., II.; M., W., F.; arrange time; (3).* Professor DODGE.

Required: English 3.

11. FOURTEENTH AND FIFTEENTH CENTURY LITERATURE.—*I., II.; Tu., Th.; arrange time; (2).* Professor DODGE.

Required: English 8 and 9. [Not given in 1902-1903.]

12. HISTORY OF THE ENGLISH LANGUAGE.—*I., II.; W.; arrange time; (2).* Professor DODGE.

Required: English 8 and 9. [Not given in 1902-1903.]

13. ICELANDIC.—*I., II.; daily; arrange time; (5).* Professor DODGE.

Required: English 8 and 9, or German 1.[Not given in 1902-1903.]

14. OLD ENGLISH LEGAL CODES.—Special course for students of politics, economics, and history. As an introduction to the course, Old English Grammar is studied, so far as is necessary for a proper understanding of early phraseology. Primarily for graduates, but open to undergraduates having sufficient preparation. *I., II.; M., W.; arrange time; (2).* Professor DODGE.

Required: One year of history, economics, sociology or English Literature.

15. SEMINARY: METHODS OF ENGLISH TEACHING.—Open to senior and graduate students. *I., II.; W.; arrange time; (1).* Professor DODGE.

[The second semester may be taken without the first.]

16. HISTORY OF AMERICAN LITERATURE.—*I.; M., W., F.; 4; (3).* Mr. PAUL.

17. HISTORY OF THE ENGLISH LANGUAGE.—Elementary course. *I., II.; Tu., Th.; 2; (2).* Professor DODGE.

[The second semester may be taken without the first.]

18. THE TECHNIQUE OF THE ENGLISH NOVEL.—*I.; Tu., Th.; arrange time; (2).* Associate Professor JAYNE.

Required: 15 hours in English Literature.

19. THE LITERARY STUDY OF THE BIBLE.—*I., II.; M., W., F.; 3; (3).* Assistant Professor BALDWIN.

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20. Eighteenth Century Poetry.—*II.; M., W., F.; 4; (3).* Mr. Paul.

21. Social Ideals in English Literature of the Nineteenth Century.—*II.; M., W., F.; 5; (3).* Associate Professor Jayne.

Required: One year of English Literature.

See also courses in comparative literature and philology.

ENTOMOLOGY

Professor Forbes, Dr. Folsom.

1. Elementary Entomology.—This is a field, laboratory, and lecture course in general entomology, open to all matriculated students, pursued without reference to economic ends, and complete in itself, but leading to the courses in general entomology (Entomology 2 and 3). The field and laboratory work is strictly entomological, but the lecture course is in great measure a course in general biology, with entomological illustrations. The subject is taught in part with a view to giving the prospective teacher of zoölogy command of entomological material for illustrative purposes. *I., II.; Tu., Th.; 6, 7; (2).* Dr. Folsom.

2. General Entomology.—This is the first of two semester courses, which may be taken independently or succeed each other in either order. Taken together, they form a year's connected major work in entomology, covering substantially the whole field. The present course is devoted mainly to field entomology in the fall and to the morphological and physiological aspects of the subject later in the semester. Beginning with the collection and preservation of specimens and the making of field observations, it is continued by laboratory studies of typical insects, made with special reference to the recognition of adaptive structures, and experimental work intended to determine their exact utilities. Species of economic insects are drawn upon by preference for laboratory study and illustrative purposes. *I.; 3, 4; (5).* Dr. Folsom.

Required: Zoölogy 1, Entomology 1 or 4.

3. General Entomology.—To be taken either with or without the preceding course. The classification and determination of insects, the study of life histories in the insectary and by field observation, and the collection of information with respect to the oecological relations of insects, are the principal subjects of this course. It is designed especially to make the student acquainted with a consid-

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erable number of insect species and other groups (preference being given to those of special economic or scientific importance), and also to serve as an introduction to a comprehensive and intelligent observation of the insect in the field and of its habits and transformations in the insectary. *II.; 3, 4; (5).* Dr. FOLSOM.

Required: Zoölogy 1 or Entomology 1.

4. ECONOMIC ENTOMOLOGY.—By means of laboratory studies and lectures and field and insectary observations, students will be made familiar with the commonest and most important injurious insects, and with means of preventing or arresting their injuries. *I., II.; M., W., F.; 3, 4; (3).* Professor FORBES and Dr. FOLSOM.

5. ADVANCED ENTOMOLOGY.—Under this head students desiring advanced work in entomology, especially as a preparation for thesis work in this subject, will be individually provided for on consultation with the entomological instructors. The course may be made to cover one or two semesters and to earn a three-hour or a five-hour credit in each. At least a three-hour course for one semester will be required as a preparation for entomological thesis work. *I., II.; arrange time; (3 to 5 each semester).* Professor FORBES or Dr. FOLSOM.

Required: Entomology 2, 3, or 4.

6. THESIS INVESTIGATION.—Students specializing in entomology will select a thesis subject, preferably during the junior year. They will be expected to give three hours a day to investigation upon it, under the supervision of an instructor, during their senior year. *I., II.; arrange time; (5).* Professor FORBES and Dr. FOLSOM.

Required: At least a three-hour course in entomology 5.

FRENCH

Professor FAIRFIELD, Assistant Professor CARNAHAN, Miss JONES.

1. ELEMENTARY COURSE.—This course embraces grammatical study, pronunciation, exercises in composition, and conversation. Reading of representative works of modern authors, such as Daudet, Labiche, Jules Verne, and others. *I., II.; section A, 1; section B, 2; section C, 3; section D, 4; section E, 7; (4).* Professor FAIRFIELD, Assistant Professor CARNAHAN, and Miss JONES.

2. NINETEENTH CENTURY.—(1) The class will read works of Mérimée, George Sand, Balzac, Sandeau, Bourget, Hugo, and others. (2) Outlines of French literature. (3) Assigned readings and

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reports thereon. *I., II.; section A, 1; section B, 2; (4).* Professor FAIRFIELD and Assistant Professor CARNAHAN.

Required: French 1.

3a. SEVENTEENTH CENTURY.—(1) Readings from Molière, Corneille, Racine, Lafontaine, Boileau, de Sévigné, and others. (2) Study of French literature and civilization of the century. (3) Advanced composition. (4) Assigned reading. *I., II.; M., W., F.; 2; (3).* Assistant Professor CARNAHAN.

Required: French 2.

3b. COMPOSITION AND CONVERSATION.—This course may be taken alone or, more profitably, with 3a. *I., II.; Tu., Th.; 2; (2).* Professor FAIRFIELD.

4. EIGHTEENTH CENTURY.—(1) The course will consist of lectures in French, themes, and collateral reading. Reading of selected works of Voltaire, Montesquieu, Rousseau, Chénier, and Beaumarchais. (2) Assigned readings. (3) Themes in French upon subjects connected with the course. *I., II.; M., W., F.; (3); arrange time.* Professor FAIRFIELD.

Required: French 3.

For courses in the Drama and Science of Language, see Comparative Literature and Philology.

COURSE FOR GRADUATES

101. OLD FRENCH READINGS.—Clédat, Les Auteurs Français du Moyen Age; Suchier, Aucassin et Nicolete; Gautier, La Chanson de Roland. Translation and comparison with the modern idiom. Study of the laws of phonetic changes. Lectures upon Old French philology. Professor FAIRFIELD.

GEOLOGY

Professor ROLFE and Mr. Fox.

Students expecting to specialize in geology should take courses number 5, 1, 2, 6, 7, 8, 9, 4, in the order named, except that 4 should run parallel with 8 and 9.

1. DYNAMIC AND HISTORIC GEOLOGY.—This course consists of lectures, recitations, and readings in dynamic and historic geology, and an equal number of laboratory exercises in petrography and paleontology.

a. Dynamic Geology. The instruction given under this head is intended to familiarize the student with the forces now at work

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upon and within the earth's crust, modeling its reliefs, producing changes in the structure and composition of its rock masses and making deposits of minerals and ores. A series of localities is studied in which great surface changes have recently taken place, with a view to ascertaining the character of the forces producing such changes, and the physical evidence of the action of like forces in the past. The subject is taught by lectures, and is abundantly illustrated by maps, models, charts, and lantern views.

b. PETROGRAPHY OF FRAGMENTAL ROCKS.—A laboratory study of fragmental rocks, following the same lines as indicated under 5b.

c. Historical Geology. The work on this subject is substantially an introduction to the history of geology as a science. Especial stress is laid on the development of the North American continent and the evolution of its geographic features.

d. Paleontology. The scheme of instruction in this subject places before the student the classification adopted for those organic forms occurring as fossils, together with the succession of the various groups in the strata, with the cause, as far as known, for their appearance and disappearance. The student is required to familiarize himself with selected groups of paleozoic fossils, abundant illustrations of which are placed in his hands. The subject is presented in lectures and demonstrations, each group being considered in connection with its nearest living representative. [Continued under Paleontology 1, p. 225]. *II.; 1, 2; (5).* Professor ROLFE and Mr. Fox.

Required: Geology 5.

2. ECONOMIC GEOLOGY.—The course is devoted to a study of the uses man may make of geologic materials, the conditions under which these materials occur, and the qualities which render them valuable. The instruction is given by text and readings from the various state and government reports, transactions of societies, and monographs in which these subjects are treated, as well as by demonstrations with materials from the collections of the University. A series of laboratory exercises on ores, soils, and structural materials runs parallel with the lecture course. *I.; 6, 7: (5).* Professor ROLFE and Mr. Fox.

Required: Geology 1 or 3.

3. GENERAL GEOLOGY, MINOR COURSE.—This course is an abridgment of courses 5, 1, 2, and 8, taking from each those portions which are thought to be most useful to a general student. The subjects treated are fully illustrated. One hour each day is devoted to

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laboratory work, and this time is about equally divided between the study of minerals, rocks, and fossils.

The instruction is by texts and lectures, using Le Conte's Elements of Geology as the basis for the class-room work, and a specially prepared guide for the laboratory. *II.; 6, 7; (5).* Professor ROLFE and Mr. FOX.

4. INVESTIGATIONS AND THESIS.—For students who select a geological, paleontological, mineralogical, or geographical subject for a thesis, guidance and facilities are offered for individual investigations in the field and laboratory. *I., II.; 3, 4; (5).* Professor ROLFE.

Required: Geology 1, 2, 6 or 7, 8 or 9.

5. ELEMENTS OF MINERALOGY, CRYSTALLOGRAPHY AND PETROGRAPHY OF CRYSTALLINE ROCKS.

a. Mineralogy and Crystallography. Instruction includes lectures and laboratory practice. In the lectures such subjects as follow are discussed: Genesis of minerals; conditions favoring their deposition; origin of the massive and crystalline forms; relationships of minerals and their classification; the physical properties of minerals, with the conditions which may cause them to vary; and the elements of crystallography, including a study of the typical whole, half, and quarter forms of each system, and their identification when in combination. In the laboratory the student is made acquainted with the simplest trustworthy methods for proving the presence or absence of the acids and bases. He is then required to determine a large number of species by their physical and chemical properties only; to trace the origin, transformations, and relationships of each; and explain any variations from the typical form, composition, or physical characters which may occur.

b. Petrography.—The instruction under this topic is given by lectures and laboratory work. The subjects included are the classification of rocks, the methods used in their determination, the conditions governing the formation of each species, the decompositions to which they are liable, and the products of these decompositions. Each student is supplied with a set of blowpipe tools and reagents, and a series of hand specimens covering all the common species of rocks and minerals. *I.; 1, 2; (5).* Professor ROLFE and Mr. FOX.

Required: Chemistry. 1.

6. ADVANCED CRYSTALLOGRAPHY.—During the first part of the semester a detailed study of the forms of crystals, their combina-

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tions, and abnormalities is made. Later the student learns to measure the facial angles of crystals with the contact or reflecting goniometer, and by mathematical calculations to determine its species. *II.; Tu., Th.; 3, 4; (2).* Professor ROLFE and Mr. FOX.

Required: Geology 5 or 10. [Not given in 1902 and 1903.]

7. OPTICAL MINERALOGY.—The student is first made acquainted with the peculiarities of the petrographic microscope. He then places thin sections of minerals and rocks under the microscope and learns to determine their species and the changes which are taking place in them by their effect on transmitted light. *II.; M., W., F.; 3, 4; (3).* Professor ROLFE and Mr. FOX.

Required: Geology 5 or 10. [Not given in 1902 and 1903.]

8. PHYSIOGRAPHY.—Three objects are aimed at in this course, viz: To promote the change in the method of teaching geography so generally advocated in recent years, to provide a rational basis for the study of geographic distribution of animals and plants, to place in their proper light the geographic factors in the history of man and his present well being.

The first part of the semester is devoted to a discussion of the general principles of meteorology, oceanography, and climatology. This is followed by a study of the physical geography of North America and Europe, with reference to the objects named above.

It is assumed that the student has a good understanding of political geography, and of the principles of land development, etc., as set forth in such works as Davis's Physical Geography, Mill's Realm of Nature, or, Tarr's Physical Geography. *I.; 3, 4; (5).* Professor ROLFE and Mr. FOX.

Required: Geology 1, 3, 11 or 12, or an approved entrance credit in geology, or physical geography.

9. ADVANCED PALEONTOLOGY.—The work outlined under geology 1d (p. 223) can do little more than introduce the general subject. To those who desire a better acquaintance with paleontology a course of one or two semesters is offered.

This course includes: (a) Discussion of the biological relations of fossil forms along the lines indicated in Williams' Geological Biology; (b) a discussion of the principles of classification as applied to fossils, together with the characteristics which distinguish the larger groups, using Nicholson, Bernard, and Zittel as guides; (c) a study of the distribution and variations of the genera and species of one or more of the important groups as illustrated by the collections of the University, using the various state reports and

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Miller's Handbook as aids. *I., II.; 3, 4; (5) either semester.* Professor ROLFE and Mr. FOX.

Required: Geology 1 or 3. A major in botany or zoölogy.

10. MINERALOGY AND CRYSTALLOGRAPHY.—This course is the same as 5a, and is offered especially to students in chemistry. *I.; daily, 1, 2, until Christmas vacation; (4).* Professor ROLFE and Mr. FOX.

11. AGRICULTURAL GEOLOGY.—A strictly technical course designed to meet the wants of the agriculturist. *II.; 3, 4; (5).* Professor ROLFE and Mr. FOX. Open to agricultural students only.

12. ENGINEERING GEOLOGY.—This is a strictly technical course dealing with those points which are especially useful to engineers. *II.; 2, 3; (5).* Professor ROLFE and Mr. FOX. Open to engineers only.

13. METEOROLOGY.—This course is the same as the first half of 8, and is taken in the same class. It is offered especially to students in agriculture.

GERMAN

Professor RHOADES, Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

1. ELEMENTARY COURSE.—Thomas's Practical German Grammar; some German Reader, or other easy narrative prose, with exercises in composition. *I.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 4; section F, 6; section G, 7; (4).* Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

3. NARRATIVE AND DESCRIPTIVE PROSE.—For students in all colleges. *Thomas's Practical German Grammar,* continued with translation of narrative prose or dialogue and exercises in prose composition. *II.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 6; section F, 6; section G, 7; (4).* Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

Required: German 1.

4. DESCRIPTIVE AND HISTORICAL PROSE.—Selections from standard prose writers of the present century, with grammatical review and drill; also exercises in reading at sight. Prose Composition. *I.; section A, 1; section B, 2; section C, 4; section D, 6; section E, 8; (4).* Professor RHOADES, Assistant Professor MEYER, Dr. BROOKS, Miss BLAISDELL.

Required: German 1 and 2, or two years of high school work.

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5. GERMAN CLASSICS.—For students in all colleges. One of Schiller's later dramas and one of Goethe's or Lessing's are translated, with work in prose composition. To the prose composition one hour per week is devoted, and, as the translation work in the two sections is different, students may, in addition to the regular work, elect and receive credit for the translation in the other section, indicating it as 5a. *II.; section A, 2; section B, 6; section C, 8; (4).* Professor RHOADES, Assistant Professor MEYER.

Required: German 4.

6. HISTORICAL AND SCIENTIFIC PROSE.—For students of all colleges. Practice in rapid reading is the purpose of this course; during the second half of the semester works of a general scientific character will afford opportunity to become familiar with scientific style. *II.; section A, 1; section B, 4; (4).* Dr. BROOKS, Miss BLAISDELL.

Required: German 4.

7. HEINE AND THE ROMANTIC WRITERS.—Rapid translation and sight reading. In 1901-1902 selections from various writers of the Romantic School were read, designated as 7a; in 1902-1903 selections from Heine's prose works and Hatfield's edition of German Lyrics and Ballads will be read, designated as course 7b. Students may elect and receive credit for both options. *I.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 5 or 6, or three years of high school German.

8. LESSING OR SCHILLER.—This course is intended to accompany course 7, but may be taken separately. In 1901-1902 Lessing's Nathan der Weise and other selected work were read and discussed, designated as course 8a; in 1902-1903 Schiller's Wallenstein and other selections will be similarly treated, designated as 8b. Students may elect and receive credit for both options. *I.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 5 or 6, or three years of high school German.

9. GOETHE'S FAUST.—Translation of Part I. and portions of Part II., with discussion of the genesis and import of the work and lectures on the poet's life. *I.; M., W., F.; 3; (3).* Professor RHOADES.

Required: German 7 or 8, 12; open only to juniors and seniors or special students by permission.

10. SELECTIONS FROM GOETHE.—In 1902-1903 selections from the lyrics and works of the classical period, designated as 10a;

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in 1903-1904 selections from the prose works and earlier dramas, designated as 10b. The course is intended to supplement 9, but may be taken separately, and students may elect and receive credit for both options. *I.; Tu., Th.; 4; (2).* Professor RHOADES.

Required: German 7 or 8, 12.

11. HISTORY OF GERMAN LITERATURE.—Lectures, recitations, and reports on assigned collateral reading. *II.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 7, 8.

12. RECENT AND CONTEMPORARY WRITERS.—Rapid reading of works by Dahn, Hauptmann, Heyse, Sudermann, Wilbrandt, and others. The same works will not be read in consecutive years, and the course may, therefore, be elected in alternate years as 12a and 12b, and students may elect and receive credit for both options. *II.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 7.

13. TEACHERS' COURSE.—Study of methods, text-books, and practical teaching. *II.; M., F.; 7; (2).* Professor RHOADES.

Required: German 7, 9, 12, also 11, unless taken in connection with this course.

14. INTRODUCTION TO MIDDLE HIGH GERMAN.—Outlines of grammar; translation of texts into modern German and into English; relation of Middle High to Modern German. Open to juniors and seniors who have had German 12. *I.; M., W., F.; 8; (3).* Dr. BROOKS.

15. OLD HIGH GERMAN.—Outlines of grammar, and translation of texts; relation of Old to Middle High German, and the other dialects. *II.; Tu., Th.; 8; (2).* Dr. BROOKS.

Required: German 14.

16. ADVANCED PROSE COMPOSITION.—Translation of ordinary prose into German, study of idiomatic constructions, and practice in rendering at sight. The work is conducted, as far as practicable, in German, and is given with special reference to the needs of students who intend to teach German. *II.; M., W., F.; 8; (3).* Miss BLAISDELL.

Required: German 12.

For courses in the Drama and Science of Language see Comparative Literature and Philology.

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GOVERNMENT, (SCIENCE OF)

1. POLITICAL INSTITUTIONS.—This is an elementary course in historical and practical politics. After a brief preliminary survey of some of the fundamental principles of politics, a comparative study of the political systems of the United States and the leading countries of Europe is made, with special reference to their historical development and practical operation. In connection with History 2 this course makes a full study running through the year. (See announcement under History 2.) *I., II.; M., W., F.; 4; (3).* MR. .....

2. ADMINISTRATION.—This course is a more extended study of a portion of the field covered in course 1, and deals primarily with the administrative function of government and questions relating thereto. The central and local administrative systems of the United States, England, France and Germany are studied. The work is based mainly on *Goodnow's Politics and Administration* and the first volume of his *Comparative Administrative Law. I.; Tu., Th.; 4; (2).* Mr. .....

3. CITY GOVERNMENT.—A study of municipal organization and methods of administration in the United States and the principal countries of Europe. *II.; M., W., F.; 3; (3).* Mr. .....

4. COMPARATIVE CONSTITUTIONS.—A study of the fundamental political institutions of the United States, England, France, Switzerland, and Germany, as seen in their constitutional systems. Based on *Burgess's Political Science and Comparative Constitutional Law. I.; Tu., Th.; 3; (2).* Mr. .....

Required: Government 1.

5. COMPARATIVE ADMINISTRATION.—The appointment, qualifications, legal relations and duties of public officers, with forms and methods of administrative action, and the legislative and judicial control of administration, form the subject matter of this course.

Required: Government 1.

6. HISTORY OF DIPLOMACY.—A study of the development of international relations, as manifested in treaties, with special reference to the United States.

7. GOVERNMENT OF ILLINOIS.—An historical examination of the development of government in the state of Illinois. *I.; Tu., Th.; 8; (2).* Mr. .....

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9. POLITICAL ETHICS.—A course in philosophic thought, comprising a historical study of theories of the nature of the state. *The same as philosophy* 9, which see. Professor DANIELS.

GREEK

Professor Moss, Dr. NEVILLE.

NOTE—Courses 1 to 4, inclusive, are designed to meet the needs of students who do not present Greek for entrance. The announcement of authors is tentative, and may be changed as the progress of the classes require.

1. GRAMMAR AND READER.—*I.; M., Tu., W., Th.; 3; (4).* Professor Moss.

2. GRAMMAR AND READER.—*II.; M., Tu., W., Th.; 3; (4).* Professor Moss.

Required: Greek 1.

3. XENOPHON'S ANABASIS, with selections from narrative parts of Thucydides. *I.; M., W., F.; 5; (3).* Dr. NEVILLE.

Required: Greek 1, 2.

4. Same topics as in 3. *I.; Tu., Th.; 5; (2).* Dr. NEVILLE.

Required: Greek 1, 2.

5. HOMER.—Odyssey; selections. *II.; M., W., F.; 5; (3).* Dr. NEVILLE.

Required: Greek 3, 4.

6. HOMER.—Odyssey; selections. *II.; Tu., Th.; 5; (2).* Dr. NEVILLE.

Required: Greek 3, 4.

7. HERODOTUS.—Greek prose composition once a week. *I.; M., W., F.; 6; (3).* Professor Moss.

Required: Entrance credits.

8. Same topics as in 7. *I.; Tu., Th.; 6; (2).* Professor Moss.

Required: Entrance credits.

9. ANDOCIDES AND LYSIAS.—Greek prose composition once a week. *II.; M., W., F.; 6; (3).* Professor Moss.

Required: Greek 7, 8.

10. AESCHINES.—Against Ctesiphon.—Greek prose composition once a week. *II.; Tu., Th.; 6; (2).* Professor Moss.

Required: Greek 7, 8.

11. XENOPHON.—Memorabilia.—*I.; M., W., F.; 1; (3).* Dr. NEVILLE.

Required: Greek 9, 10.

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12. GREEK TRAGEDY.—*II.; M., W., F.; 1; (3).* Dr. NEVILLE.
Required: Greek 9, 10.

13. HOMER.—The Iliad. *I.; M., W., F.; 2; (3).* Professor Moss.
Required: Greek 11, 12.

14. HOMER.—The Iliad. *II.; M., W., F.; 2; (3).* Professor Moss.
Required: Greek 11, 12.

15. PLATO.—Selections. *I.; Tu., Th.; 2; (2).* Professor Moss.
Required: Greek 12.

16. NEW TESTAMENT GREEK.—*II.; Tu., Th.; 2; (2).* Professor Moss.
Required: Greek 4.

17. GREEK LITERATURE.—Lectures and prescribed readings from English translations. *I.; Tu., Th.; 4; (2).* Professor Moss.
(Open to students above freshman year.)

See also courses in Comparative Literature and Philology.

COURSE FOR GRADUATES

101. GREEK ORATORY.—Professor Moss.

HISTORY

Professor GREENE, Dr. SCHOOLCRAFT, Mr. ALVORD.

[It is recommended that the elementary courses be taken in the following order: History 5, 6, 1, 2. For students who take but one course in History, History 1 is recommended.]

1. MEDIAEVAL AND MODERN EUROPEAN HISTORY.—Elementary, introductory course. *I., II.; M., W., F.; section A, 1; section B, 3; section C, 4; section D, 7; 7; (3).* Dr. SCHOOLCRAFT, Mr. ALVORD, and Mr. GRIDLEY.

2. HISTORICAL INTRODUCTION TO CONTEMPORARY POLITICS.—The political history of the nineteenth century. The first semester is devoted to the political history of the United States, and the second to that of Europe. The work of either semester may be taken separately. This course, taken with Science of Government 1, constitutes, during the first semester, a course in American history and government; and in the second semester a course in the

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governments and recent political history of Europe. *I., II.; Tu., Th.; 4; (2).* Professor GREENE.

3. AMERICAN HISTORY.—The origin and growth of the nation from the beginning of English colonization in America to the close of the reconstruction period. The work of either semester may be taken separately. *I., II.; daily; 1; (5).* Professor GREENE.

Required: History 1 or 2; or, for juniors and seniors in the Colleges of Engineering, Science, and Agriculture, any course in economics or government.

4. ENGLISH CONSTITUTIONAL HISTORY.—In this study of the growth of the English constitution, some attention is also given to the origins of legal institutions. The course is therefore adapted to the needs of students who expect to follow the profession of law. *I., II.; M., W., F.; 3; (3).* Dr. SCHOOLCRAFT.

Required: History 1 or an equivalent.

5. THE HISTORY OF GREECE.—This course and history 6 will be useful to students who expect to teach the classics and ancient history in secondary schools. *I.; M., W., F.; 7; (3).* Mr. ALVORD.

6. THE HISTORY OF ROME.—The aim of this course, which furnishes a suitable introduction to history 1, is to give a general survey of the Roman world before the appearance of the Germans. rather than to trace the economic and political history of the city. *II.; M., W., F.; 2; (3).* Mr. ALVORD.

7. THE REVOLUTIONARY ERA IN EUROPE, 1763-1815.—*II.; M., W., F.; 4; (3).* Dr. SCHOOLCRAFT.

Required: History 1.

8. THE COLONIAL INTERESTS AND COLONIAL POLICIES OF THE EUROPEAN POWERS.—Special attention will be given to the nineteenth century. *II.; M., W.; 4; (3).* Professor GREENE.

Required: History 1.

9. THE PERIOD OF THE ITALIAN RENAISSANCE.—*I.; Tu., Th.; 7; (3).* Mr. ALVORD.

Required: History 1.

10. ENGLAND UNDER THE STUART KINGS.—Puritanism and the Church of England. The conflict between king and parliament. *I.; M., W., F.; 2; (3).* Dr. SCHOOLCRAFT.

11. ENGLISH HISTORY.—A general course in the history of England from the migrations until 1815. *II.; M., Tu., Th., F.; 7; (4).* Dr. SCHOOLCRAFT.

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COURSES FOR GRADUATES

101. AMERICAN HISTORY.—Special studies in the development of the West. *I., II.; M., W.; 8; (3).* Professor GREENE.

102. ENGLISH HISTORY.—Studies in the period of the Puritan Revolution. *I., II.; arrange time; (2).* Dr. SCHOOLCRAFT.

103. SEMINARY IN AMERICAN HISTORY.—Training in historical research. *I., II.; arrange time; (for undergraduate students; 2; for graduates, 2 or more, at the option of the student and the instructor).* Professor GREENE.

Courses 101 to 103 are primarily for graduates, but they may also be taken by seniors of high standing who have previously taken two or more courses in history.

HORTICULTURE

Professor BURRILL, Professor BLAIR, Dr. HOTTES, Mr. LLOYD, Mr. WARD, Mr. STUBENRAUCH, Mr. HASSELBRING, Mr. GLEASON, Mr. BEAL.

1. PRINCIPLES OF FRUIT GROWING.—This course, which is designed for all students in the College of Agriculture, deals with the fundamental principles of fruit culture. It embraces a study of location with reference to climate and markets, planting, soil treatment, pruning, protection from insects and diseases, harvesting and marketing. Recitations, reference readings, and practical exercises. *I.; Recitations, M., W., F.; 6; Laboratory, Tu., Th.; 6, 7; (5).* Mr. LLOYD.

Required: Botany 1 or 11.

2. SMALL FRUIT CULTURE.—A study of the strawberry, raspberry, blackberry, dewberry, currant, gooseberry, cranberry, and juneberry; each studied with reference to history, importance and extent of cultivation, soil, location, fertilizers, propagation, planting, tillage, pruning, insect enemies, diseases, varieties, harvesting, marketing, profits. Recitations and reference readings, with occasional practical exercises. *II.; Tu., Th.; 1; (2).* Mr. LLOYD.

Required: Horticulture 1.

3. VEGETABLE GARDENING.—Kitchen and market gardening; including a study of all the common vegetables. *II.; M., W., F.; 1; (3).* Mr. LLOYD.

4. PLANT HOUSES.—The construction and management of plant houses, with especial reference to the growing of vegetables under

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glass. Text-book and laboratory work. *I.; Recitations, Tu., Th.; 1; Laboratory, M., W., F.; 1, 2; (5).* Mr. BEAL.

5. PLANT PROPAGATION.—Grafting, budding, layering, making cuttings, pollination, seedage, etc. Text-book and laboratory work. *I.; second half; Recitations; section A, M., W.; 8; section B, Tu., Th.; 8; Laboratory; section A, Tu., Th., S.; 3, 4; section B, M., W., F.; 6, 7; (2½).* Mr. BEAL.

6. NURSERY METHODS.—A study of some details of nursery management and their relation to horticulture in general. Lectures and reference readings. *II.; first half; daily; 8; (2½).* Mr. LLOYD.

Required: Horticulture 1, 5; Entomology 4.

7. SPRAYING.—The theory and practice of spraying plants, embracing a study of materials and methods employed in the combating of insects and fungous diseases. Recitations, reference readings, and laboratory work. *II.; second half; Recitations, Tu., Th.; 6; Laboratory, M., W., F.; 6, 7; (2½).* Mr. LLOYD.

Required: Horticulture 1; Entomology 4; Chemistry 1.

8. ORCHARDING.—A comprehensive study of pomaceous fruits: apple, pear, quince; drupaceous or stone fruits: plum, cherry, peach, nectarine, apricot. Each fruit studied with reference to the points enumerated under 2, above. Lectures, text-books, and laboratory work. *I.; Recitations, M., W., F.; 4; Laboratory, Tu., Th.; 3, 4; (5).* Mr. STUBENRAUCH.

Required: Horticulture 1.

9. FORESTRY.—This course embraces a study of forest trees and their natural uses, their distribution, and their artificial production. The relations of forest and climate are studied, and the general topics of forestry legislation and economy are discussed. *II.; Tu., Th.; 4; (2).* Professor BURRILL.

Required: Botany 1 or 11.

10. LANDSCAPE GARDENING.—Ornamental and landscape gardening, with special reference to the beautifying of home surroundings. Lectures illustrated by means of lantern slides and charts, recitations, reference readings, and practical exercises. *II.; M., W., F.; 4; (3).* Assistant Professor BLAIR.

Required: Two years of university work, or special preparation.

11. ECONOMIC BOTANY.—Useful plants and plant products. Lectures and assigned readings. *I.; Tu., Th.; 3; (2).* Professor BURRILL.

Required: Regular admission; Botany 1 or 11.

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12. Evolution of Cultivated Plants.—Comprising a study of organic evolution and the modification of plants by domestication. *I.; M., W., F.; 3; (3).* Assistant Professor Blair.

Required: Regular admission; two years of university work, including Thremmatology.

13. Viticulture.—A comprehensive study of the grape and its products. *I.; first half; daily; 5; (2½).* Mr. Stubenrauch.

Required: Horticulture 1, 5.

14. Nut Culture.—The cultivation and management of nut-bearing trees for commercial purposes. *I.; second half; daily; 5; (2½).* Mr. Stubenrauch.

Required: Horticulture 1, 5.

15. Floriculture.—Amateur and commercial floriculture, including a study of window gardening, and the growing of cut flowers and decorative plants. *II.; daily; 3; (5).* Mr. Beal.

Required: Horticulture 4, 5; Botany 2.

16. General Horticulture.—For students not registered in the College of Agriculture. A course covering the general principles and processes of fruit-growing, gardening, floriculture, and ornamental planting. *I.; daily; 2; (5).* Assistant Professor Blair, Mr. Lloyd, and Mr. Beal.

17. Commercial Horticulture.—A course giving practical training for those students intending to follow horticulture as a business. Work in houses, orchards, and gardens—suited to ability and requirements of each student. Special permission required for admission into this course. *I., II.; arrange hours; (5-20).* Mr. Lloyd and Mr. Beal.

18. Experimental Horticulture.—A course for those intending to engage in professional horticulture or experiment station work. For advanced students. *I.; daily; 1; (5).* Assistant Professor Blair.

Required: Regular admission; twenty hours' work in horticulture.

19. Special Investigation and Thesis Work.—Required of candidates for graduation. *I., II.; arrange time; (5 to 10).* Professor Burrill, Assistant Professor Blair, and Mr. Lloyd.

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HOUSEHOLD SCIENCE

Professor BEVIER and Miss BEATTY.

*1. PRINCIPLES OF THE SELECTION AND PREPARATION OF FOOD.—In this course the nature and uses of food, its chemical composition, and the changes effected by heat, cold, or fermentation, are considered. Practical illustrations of the principles of selection are given by marketing expeditions. Some of the processes of the manufacture of food are considered, as well as the combinations of different kinds. *Knight's Food and Its Functions.* A demonstration lecture, two laboratory periods, and one recitation per week. *II.; M., W., F.; 1, 2; (3).* Miss BEATTY.

Required: Entrance credit in physics; entrance credit in chemistry, or chemistry 1.

2. HOME ARCHITECTURE AND SANITATION.—This course treats of the situation, surroundings, and construction of the house; the hygiene of the home; heating, lighting, ventilation, water supply, and drainage. Lectures on house planning, with exercises in making skeleton plans, are given by Professor White. Lectures on sanitary plumbing and fixtures and internal drainage are given by Assistant Professor McLane. Lectures, references and field work, and discussions. *I.; Tu., Th.; 2; (2).* Professor BEVIER.

3. ELEMENTARY HOME DECORATION.—This course is a continuation of the work of course 2. Lectures on the evolution of the house and the homes of primitive peoples are given by Professor Ricker. The theory of color and its applications in home decoration are discussed by Professor Wells. The evolution of the home, some of the principles of home management and furnishings from a sanitary and artistic standpoint, are also considered. Lectures, reference work, and discussions. *II.; Tu., Th.; 2; (2).* Professor BEVIER.

4. CHEMISTRY OF FOOD AND NUTRITION.—This course deals with the subjects of food and nutrition from the standpoint of sanitary and physiological chemistry. The student is expected to make investigations in the study of yeasts; various household applications of bacteriology, and to construct dietaries adapted to different ages, occupations, and conditions. *Richard and Woodman's Air, Water, and Food; Halliburton's Essentials of Chemical Physiology; Government Bulletins.* Two lectures, one recitation, two laboratory peri-

* Course 1 will be given first semester, 1902, to not less than five students.

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ods, per week. *I.; M., W.; 3, 4; Tu., Th., F.; 3; (5).* Professor BEVIER.

Required: Bot. 5; Chem. 1, 3b, 4, 5c, 20; 5 hours in Botany or Zoology.

*5. DIETETICS AND HOUSEHOLD MANAGEMENT.—The topics considered are: (a) The principles of diet; the relation of food to health; the influence of age, sex, and occupation; the dietic treatment of certain diseases; principles of home nursing. (b) The organization and care of the household; the processes involved in the cleaning of metals, woods, and fabrics; the use of disinfectants. *II.; M., W., F.; 5; (3).* Miss BEATTY.

Required: Household Science 1, 6.

6. ECONOMIC USES OF FOOD.—This course is a continuation of course 1. Emphasis is put upon the economic side of the food question. The uses and applications of preservatives are considered. *I.; M., W., F.; 1, 2; (3).* Miss BEATTY.

Required: Household Science 1.

7. TEXTILES.—The development of primitive industries, production of fibers used in textile manufactures; properties of fibers, preparation, adulteration, manufacture. *I.; Tu.; 5; (1).* Miss BEATTY.

8. PERSONAL AND PUBLIC HYGIENE.—This course is intended to be a popular presentation of the results of late investigations in regard to food and sanitation. *I.; Tu.; 8; (1).* Professor BEVIER.

9. SEMINARY.—Reports and discussions upon assigned topics. For advanced students. *I., II.; W.; arrange time; (1).* Professor BEVIER.

ITALIAN

Professor FAIRFIELD, Miss JONES.

1. GRAMMAR AND READING.—Grandgent's Italian Grammar, reading of modern authors; Dante's Divina Commedia, outlines of Italian literature. *I., II.; M., W., F.; arrange time; (3).* Miss JONES.

LATIN

Professor BARTON, Dr. NEVILLE.

1. CICERO AND PLINY.—De Amicitia and De Senectute; composition based on the text; selections from Pliny's letters; Roman life in Pliny's time. Students offering nine credits in Latin for ad-

* Course 5 may be given the first semester in 1902 if a sufficient number elect it.

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mission will take this course. *I., II.; M., W., Th., F.; (4).* Dr. NEVILLE.

2. LIVY.—Selections from the XXI. and XXII. books. Latin composition based on the text. Noun and verb syntax, and facility in English expression are emphasized. *I.; M., Tu., W., F.; 2; (4).* Professor BARTON.

3. TERENCE.—Phormio, Roman comedy, Roman Life in Prose and Verse. Outlines of Roman Literature. *II.; M., Tu., W., F.; 2; (4).* Professor BARTON.

4. HORACE AND CATULLUS.—The odes of Horace and the lyrics of Catullus. Their art as a contribution to the world's best literature. *I.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2, 3.

5. HORACE AND TACITUS.—The Satires and Epistles of Horace. Especial reference to the private life of the Romans in the time of Augustus. The Agricola of Tacitus as an example of finished biography. *I.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2,3. [Not given in 1902-03.]

6. PLAUTUS.—Five plays. The development of the Roman drama. *II.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2, 3.

7. THE ROMAN HISTORIANS.—Readings from Caesar, Sallust, Livy, Tacitus, and Suetonius. The course is devoted to a study of the differences of style and method of treating historical themes. *I.; M., W., F.; 3; (3).* Dr. NEVILLE.

Required: Latin 2, 3. [Not given in 1902-03.]

8. ROMAN SATIRE AND EPIGRAM.—Selections from Juvenal and Martial. Society in the first century. *I.; M., W., F.; 3; (3).* Dr. NEVILLE.

Required: Latin 2, 3.

9. TEACHERS' COURSE.—A study of the purposes and methods of preparatory Latin instruction and the conditions existing in the high schools of the state. *II.; M., W., F.; 3; (3).* Professor BARTON.

10. LATIN PROSE COMPOSITION.—Intended especially for students having teaching in view. *I.; M., W., F.; 8; (3).* Professor BARTON.

11. THE ELEGIAC POETS.—Tibullus, Propertius, and Ovid. *I.; M., W., F.; 3; (3).* Dr. NEVILLE. [Not given in 1902-03.]

12. LATIN LITERATURE IN ENGLISH.—A study of the masterpieces of Latin Literature in their English translations. Open to all

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students except freshmen. *II.; M.; 8; (1).* Professor BARTON. *See also courses in Comparative Literature and Philology.*

LAW

Professors SCOTT, PICKETT, DREW, TOOKE, HUGHES, and Mr. HOLMES.

*A. ELEMENTS OF JURISPRUDENCE.—The origin, development, and classification of law, followed by an introduction to the fundamental principles of the Common Law. Text-books, *Blackstone's Commentaries, Robinson's American Jurisprudence. I., II.; M., W.; 2; (2).* Professor SCOTT.

1. CONTRACTS.—Text-book, *Keener's Cases on Contracts. I., II.; M., W., F.; 3; (3).* Professor PICKETT.

2. TORTS.—Text-book, *Ames and Smith's Cases on Torts. I.; Tu., W., Th.; 4; (3). II.; Tu., Th., F.; 4; (3).* Professor TOOKE.

3. REAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; M., W.; 1; (2). II.; Tu., Th.; 1, (2).* Mr. HOLMES.

4. COMMON LAW PLEADING.—Text-book, *Perry's Common Law Pleading. I.; M.; 2; (1). II.; M. W.; 4; (2).* Professor DREW.

5. CRIMINAL LAW.—Text-book, *Beale's Cases on Criminal Law. I.; Tu., Th.; 1; (2). II.; M.; 2; (1).* Professor HUGHES.

6. PERSONAL PROPERTY.—Text-book, *Gray's Cases on Property. II.; F.; 1; (1).* Mr. HOLMES.

7. DOMESTIC RELATIONS.—Text-book, *Smith's Cases on Law of Persons. II.; M., W.; 1; (2).* Mr. HOLMES.

8. EVIDENCE.—Text-book, *Thayer's Cases on Evidence. I.; M., F.; 2; (2). II.; Tu., Th.; 2; (2).* Professor HUGHES.

9. SALES.—Text-book, *Williston's Cases on Sales. II.; M., W., F.; 2; (3).* Professor PICKETT.

10a. REAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; Tu., Th.; 1; (2).* Mr. HOLMES.

10b. REAL PROPERTY.—Text-book, *Gray's Cases on Property. I.; Tu., F.; 4; (2).* Mr. HOLMES.

11. AGENCY.—Text-book, *Wambaugh's Cases on Agency. I.; Tu., Th.; 3; (2). II.; Th.; 3; (1).* Professor DREW.

* Courses marked with asterisk (*) are elective for students of law. Courses A, 22, 23, 24, and 27, are open to students of the College of Literature and Arts without fee, and count for credit towards the Arts degree. Law A (Elements of Jurisprudence) is open to first, second, and third year law students; the other elective courses are open to high grade students of the College of Law, of the second and third years only, without extra fee.

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12. EQUITY.—Text-book, *Ames' Cases on Equity. I., II.; M., W.; 3; (2).* Professor SCOTT.

13. DAMAGES.—Text-book, *Beale's Cases on Damages. I.; Tu., Th.; 2; (2).* Professor TOOKE.

14. BAILMENTS AND CARRIERS.—Text-book, *McClain's Cases on Carriers. I.; W., F.; 4; (3).* Professor DREW.

15. BILLS AND NOTES.—Text-book, *Huffcut's Negotiable Instruments. I.; Tu., Th., F.; 2; (3).* Professor PICKETT.

16. TRUSTS.—Text-book, *Ames' Cases on Trusts. I.; W., F.; 3; (2).* Professor DREW.

17. CORPORATIONS: PRIVATE AND MUNICIPAL.—Text-book, *Smith's Cases on Corporations; Smith's Cases on Municipal Corporations. I.; M., W.; 2; (2). II.; Tu., F.; 2; (2).* Professor TOOKE. This course must be taken in connection with 24.

18. WILLS.—Text-book, *Gray's Cases on Property*, Vol. 4. *I.; Tu., F.; 3; (2).* Professor HUGHES.

19. PARTNERSHIP.—Text-book, *Ames' Cases on Partnership. I.; Tu., Th.; 3; (2).* Professor HUGHES.

20. EQUITY PLEADING.—Text-book, *Ames' Cases on Equity. II.; M., Th.; 3; (2).* Professor HUGHES.

21. SURETYSHIP.—Text-book, *Ames' Cases on Suretyship. II.; Tu., Th., F.; 2; (3).* Professor DREW.

22. CONSTITUTIONAL LAW.—Text-book, *McClain's Cases on Constitutional Law. I., II.; M., W.; 4; (2).* Professor SCOTT.

*23. INTERNATIONAL LAW.—Text-book, *Snow's Cases on International Law. II.; M., W., F.; 1; (3).* Professor SCOTT.

24. MUNICIPAL CORPORATIONS.—Text-book, *Smith's Cases on Municipal Corporations. I.; M., W.; 2; (2). II.; Tu., Th.; 2; (2).* This course is part of 17. It is open by itself to students of the College of Literature and Arts, but students of the College of Law who take it must take 17 in connection with it.

*25. PRACTICAL CONVEYANCING.—Text-book, *Illinois Statutes. I.; Th.; 4; (1).* Professor PICKETT.

26. MOOT COURT.—*I., II.; Sat.; 9-12 a. m.* Mr. Justice HARKER.

*27. ROMAN LAW.—Text-book, *Sohm's Institutes of Roman Law. I., II.; M., W., 5; (2).* Professor SCOTT.

*28. INSURANCE.—Text-book, *Wambaugh's Cases on Insurance. II.; Tu., Th.; 4; (2).* Professor PICKETT.

*29. MORTGAGES.—Text-book, *Kirchwhy's Cases on Mortgages. I.; M., W.; 1; (2).* Professor SCOTT.

*See foot note p. 239.

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*30. BANKRUPTCY.—Text-book, *Williston's Cases on Bankruptcy*. Professor PICKETT. [Not given in 1902-03.]

*31. CONFLICT OF LAWS.—Text-book, *Beale's Cases on Conflict of Laws*. Professor SCOTT. [Not given in 1902-03.]

*32. QUASI-CONTRACTS.—Text-book, *Keener's Quasi-Contracts*. Professor PICKETT. [Not given in 1902-03.]

LIBRARY SCIENCE

Professor SHARP, Assistant Professor MUDGE, Miss MANN, Miss SIMPSON, Miss COLE, and Miss MOON.

1. ELEMENTARY LIBRARY ECONOMY.—Instruction begins with the selection of books and the placing of an order, and follows the regular library routine.

The work of the order department is taught by lectures and practice. American, English, French, and German trade bibliography is introduced. Instruction in the accession department is according to Dewey's Library School Rules. Lectures are given upon duplicates, exchanges, gifts, importing, copyright, and allied topics.

The Dewey decimal classification is taught by classifying books. In the shelf department Dewey's Library School Rules is used and supplemented with lectures. Sample shelf-lists are made with both sheets and cards.

Cataloging is taught according to Dewey's Library School Rules and Cutter's Rules for a Dictionary Catalog. After each lecture students are required to catalog independently a number of books. The class is taught to modify the rules to suit different types of libraries. Lectures are given on forms of card catalogs and mechanical accessories. Library handwriting is practiced in connection with all the work.

Instruction is given on loan systems and on binding and repair work.

Single lectures are given on library associations, library schools, library commissions, traveling libraries, home libraries, and library economy publications, to acquaint students with current general library topics. Once in two weeks the entire school examines all library publications received since the last meeting, and considers them in their relation to library history, biography, and administration. *I.; daily; 2; (10). II.; daily; 2: (4).* Professor SHARP.

2. ELEMENTARY REFERENCE.—Lectures and problems are given

* See foot note p. 239.

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on reference books considered in groups, such as indexes, dictionaries, encyclopedias, atlases, hand-books of history, hand-books of general information, quotations, statistics, etc. Reference lists are prepared for special classes and for literary societies, and the students have practical work in the reference department of the library. *I., II.; section A, Tu.; 1; section B, W.; 1; (2).* Assistant Professor MUDGE.

3. SELECTION OF BOOKS.—Lectures are given upon methods and principles of selection for different libraries and subjects, and typical books chosen to illustrate each subject are discussed in class. The Publishers' Weekly and various critical periodicals are used to give students familiarity with new books. Representative new books are examined and reviewed by each student and discussed in class with special reference to author and subject of each book, its special features, probable value in different types of libraries, and the extent to which it supplements or supersedes earlier books on the same subject. The comparative method is followed wherever possible, and the aim of the course is to develop in the student the ability to judge new books, and to familiarize him with some of the principles governing the selection of books for different purposes. The course continues through two years. In the senior year a special point is made of the problems, which are assigned to cover puzzling questions in book selection. *I., II.; section A, F.; 1; section B, M.; 1: (2).* Assistant Professor MUDGE.

4. ELEMENTARY APPRENTICE WORK.—The purpose of this work is to familiarize the students with the minor work of a library and to acquaint them with the books in the University library. Each student is given practical work in the mechanical preparation of books for the shelves, and in the copying of minor library records assigned as practice in library handwriting.

The care of the books in the stacks, including the reading of shelves, is assigned to the students, who are thus brought in contact with the books. Upon the completion of a class study, practical work upon this study is assigned to such students as are capable of doing independent work. The work is all done under the direction of an instructor. *I.; daily; 3; (2). II.; daily; 3; (8).* Miss MANN.

Required: Library 1, 2.

5. ADVANCED LIBRARY ECONOMY.—Advanced principles of classification and cataloging are studied by a comparison of systems. The class discusses questions affecting the founding and government of libraries, library legislation, library architecture, library adminis-

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tration, and current problems in public and college library work. *I.; M.; 3. II.; M., W.; 3; (2).* Professor SHARP and Miss MANN.

Required: Library 4.

6. BIBLIOGRAPHY.—Professors in the University lecture on principles of selection of books in their specialties, with suggestions as to most important works. Students examine the books referred to, and test their familiarity with them by frequent problems and quizzes. *I., II.; Tu., F.; 3; (2).* Professor SHARP.

7. HISTORY OF LIBRARIES.—This course comprises an account of the foundation and development of the leading ancient, mediaeval, and modern libraries, special importance being attached to the history of the library movement in the United States. Libraries are studied by types and by countries, with particular attention to the relation between the social, intellectual, and political movements in each country and the growth of libraries. Prominence is also given to library legislation in the United States. *I.; W.; 1; (2).* Miss SIMPSON.

8. ADVANCED REFERENCE.—This course takes up transactions of societies and other advanced reference books. A report on current events is introduced as a practical feature of reference work. *II.; Th.; (1).* Assistant Professor MUDGE.

Required: Library 1, 2.

9. BOOK-MAKING.—This course includes the history of the invention of printing and of its introduction into the various countries of Europe. It comprises also a survey of the art and development of binding, the principles of book illustration, with some account of printers' marks and of American and foreign book-plates. As in Library 7, the work is based upon historical methods, each special subject being treated as a phase of social development. *II.; W.; 1; (1).* Professor SHARP and Miss SIMPSON.

10. ADVANCED APPRENTICE WORK.—This consists of independent technical work in the University library and of public library work in Champaign, averaging two hours a day through the year. Seniors revise junior cataloging for review, and they classify and catalog new books, and have regular assignments at the reference desk. They also have juniors assigned to them as assistants to test their executive ability. *I., II.; daily; 4; (5).* Miss MANN.

Required: Library 4.

11. THESIS.—Each student is required to prepare a thesis for graduation. This must be on some library topic, and must represent original research. An original bibliography, instead of a thesis,

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may be presented upon the approval of the director. *I.; arrange time; (1). II.; arrange time; (3).* Professor SHARP.

12. GENERAL REFERENCE.—This course is offered to all students of the University who wish to become familiar with the ordinary reference books. It comprises lectures on the catalog, classification, the reference-room, the reading-room, and groups of books, such as indexes, dictionaries, encyclopedias, atlases, hand-books of general information, hand-books of history, statistics, quotations, etc. *I.; M.; 6:30 p. m.; (1).* Professor SHARP.

13. PUBLIC DOCUMENTS.—The publications issued by the U. S. government are carefully studied both for their value as reference books and for the correct methods of cataloging. Methods of printing and distribution, and important indexes, both general and special, are carefully considered. The important publications of each executive department of the government are taken up and various editions in which these appear are noted. Practical reference questions are given to familiarize students with the books, and a sample catalog is made illustrating the various principles. The rules followed in this work are carefully compiled by each student. *I.; W.; 7-8; (2).* Miss MANN.

Required: Library 1, 2.

MATHEMATICS

Professor SHATTUCK, Associate Professor TOWNSEND, Assistant Professor SHORT, Mr. MILNE, Mr. PONZER, Mr. COAR, Miss WHITE, and Mr. SMITH.

1. ADVANCED ALGEBRA.—This course is offered for those students who wish to cover in five hours of mathematical work the subject of college algebra and that of plane and spherical trigonometry (Math. 3). The course presupposes a thorough working knowledge of elementary algebra through simultaneous quadratics. Students who for any reason have not had this work recently will find it to their advantage to review it thoroughly before beginning the course. The same subjects will be considered as in course 2, but more briefly. *I. or II.; Tu., Th.; 3; (2).* Mr. COAR.

2. ADVANCED ALGEBRA.*—This course is for those students who wish to cover in five hours of mathematical work the subject of college algebra and that of plane trigonometry (Math. 4). A previous review of entrance algebra would enable the student to do the

* One section, O, will repeat the work in the second semester.

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work of the course more easily. The following topics will be considered: Progressions, undetermined coefficients, binomial theorem, logarithms, permutations and combinations, probability, and the theory of equations, with special reference to the solution of numerical equations of the third and fourth degree. *Sections A to I are for engineers, sections J to O are for students of the College of Science, and the College of Literature and Arts. Section A, 6; section B, 4; section C, 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 2; section K, 1; section L, 4; section M, 7; section N, 4; section O, 6; (3).* Mr. MILNE, Mr. COAR, Mr. BRENKE, Mr. PONZER, Mr. SMITH and Miss WHITE.

3. PLANE AND SPHERICAL TRIGONOMETRY.—This course covers the same ground in plane trigonometry as course 4. In addition to the work outlined there, about two-fifths of the term will be given to developing the general principles and applications of spherical trigonometry. *I. or II.; M., W., F.; 3; (3).* Mr. COAR.

Required: Solid and Spherical Geometry.

4. PLANE TRIGONOMETRY.*—The following topics will be taken up, viz.: Measurements of angles, trigonometric functions and their fundamental relations, functions of the sum and the difference of two angles, functions of twice an angle and of half an angle, the construction and use of logarithmic tables, solution of trigonometric equations, the relations between the sides of a triangle and the functions of its angles, the solution of triangles. *Sections A to I are for Engineers. Sections J to O are for students of the College of Science and the College of Literature and Arts. Sections A to N, I.; section O, I. or II.; Tu., Th.; section A, 6; section B, 4; section C, 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 2; section K, 1; section L, 4; section M, 7; section N, 4; section O, 6; (2).* Mr. MILNE, Mr. COAR, Mr. BRENKE, Mr. PONZER, Mr. SMITH and Miss WHITE.

6. ANALYTICAL GEOMETRY.—The aim is to acquaint the student with analytical methods of investigation and to familiarize him with the general properties of conics, including a discussion of the general equation of the second degree and its geometrical interpretation. Special emphasis is placed upon the use of algebraic processes as a means of demonstrating geometrical properties of loci. To this is added a brief course on the analytical geometry of three dimensions, including co-ordinate systems in space, the relations of points,

* One section, O, will repeat the work in the second semester.

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straight lines, and planes in space, as also the general properties of surfaces of the second order. *Sections A to I are for Engineers. Sections J and K are for students of the College of Science and the College of Literature and Arts. II.; section A, 6; section B, 4; section C, 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 4; section K, 2; (5).* Mr. MILNE, Mr. COAR, Mr. PONZER, Mr. SMITH and Miss WHITE.

Required: Mathematics 1, 3, or 2, 4.

7. DIFFERENTIAL CALCULUS FOR ENGINEERS.—Variables and functions; limits and infinitesimals; differentials and derivatives: differentiation of explicit functions, implicit functions, and functions of several variables; derivatives of higher orders; successive derivatives; developments in series; maxima and minima of functions; indeterminate forms; plane curves, tangents, and normals; asymptotes, singular points, and curve tracing; theory of envelopes, of curvature, of evolutes, and of involutes. *I.; section A, 1; B, 3; section C, 8; section D, 7; section E, 6; section F, 1; (5).* Assistant Professor SHORT and Mr. PONZER.

Required: Mathematics 6.

8a. DIFFERENTIAL AND INTEGRAL CALCULUS (Elementary course).—This course is for the students of the College of Science and of the College of Literature and Arts, and is intended as a general introduction to the principles of differential and integral calculus. It will include the following topics: Fundamental principles of differentiation, successive differentiation, development of functions of a single variable, indeterminate forms, maxima and minima of functions of a single variable, integration of standard forms, successive integration, elementary properties of definite integrals, etc. Each topic will be illustrated, so far as possible, by its application to geometry and to elementary problems in mechanics. *I.; 2; (5).* Associate Professor TOWNSEND.

Required: Mathematics 6.

8b. DIFFERENTIAL AND INTEGRAL CALCULUS (Advanced course).—This course is a continuation of 8a and is planned for those students who wish to go beyond the mere rudiments of the subject. Among the topics to be considered are the following: Continuity of functions of two variables, partial differentiation, interchange of the order of differentiation, extension of Taylor's theorem, Euler's theorem for homogenous functions, maxima and minima of functions of two variables, differentiation and integration of infinite series, differentiation and integration under the integral sign, double

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integrals, Fourier series, etc. The application of calculus to geometry and to mechanics, begun in 8a, will be extended throughout the course. *I., II.; Tu., Th.; 2; (2).* Associate Professor TOWNSEND.

Required: Mathematics 8a.

9. INTEGRAL CALCULUS FOR ENGINEERS.—Elementary forms of integrations; integrals immediately reducible to the elementary forms; integration by rational transformations; integration of irrational algebraic differentials; integration of transcendent functions; definite integrals; successive integration; differentiation under the sign of integration; integration by means of differentiating known integrals; double integrals; triple and multiple integrals; product of two definite integrals.

Rectification and quadrature; the parabola, the ellipse, the cycloid, the Archimedean spiral, the logarithmic spiral, the limniscate. quadrature of surfaces of revolution and of surfaces in general; cubature of volumes; the sphere, the pyramid, the ellipsoid, any solid of revolution, and of volumes in general. *II.; daily; section A, 1; section B, 3; section C, 8; section D, 7; section E, 6; section F, 1; (5).* Assistant Professor SHORT and Mr. PONZER.

Required: Mathematics 7.

10. THEORY OF EQUATIONS.*—The development of the general properties of equations; relations of the roots and the coefficients of an equation, with applications to symmetric functions; transformation of equations; solution of reciprocal and binomial equations; algebraic solution of cubics and biquadratics; properties of derived functions; the limits and separation of the roots of equations; the solution of numerical equations of the ninth degree. *II.; M., W., F.; 1; (3).* Associate Professor TOWNSEND.

Required: Mathematics 2, 4 or 1, 3, 6.

11. THEORY OF DETERMINANTS.*—The origin and notation of determinants, properties of determinants, determinant minors, multiplication of determinants, determinants of compound systems, determinants of special forms—Jacobians, Hessians, Wronskians—with applications to algebra, including linear transformations, and to analytic geometry. *II.; Tu., Th.; 1; (2).* Mr. MILNE.

Required: Mathematics 8a, 10.

12. THEORY OF INVARIANTS.—The course will cover the general development of the theory of invariants, both from the geometric and from the algebraic side. Applications of invariants will be

* In 1902-03 this subject will be offered each semester.

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made to systems of conics and to higher plane curves. Lectures with collateral reading. *I.; M., W., F.; arrange time; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8b, 11.

13. THEORY OF FUNCTIONS.—This course is intended as a continuation of the work done in calculus (Math. 8a, 8b) and will cover the general theory of functions of real as well as of complex variables. By way of introduction considerable attention will be given to the development of the fundamental ideas of the analysis, including rational and irrational numbers, mengelehre, single and double limits. These will be applied to the study of the continuity and discontinuity of functions of one and of two real variables as well as questions of uniform convergence, existence of derivatives, condensation of singularities, definite integrals, etc. In complex variables, the same questions will again be studied covering the general theory of the analytic function from both the Riemann and the Weierstrass point of view. *I., II.; M., W., F.; 8; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8a, 8b (or 7, 9), 10.

14. METHOD OF LEAST SQUARES.—The object of this course is to present the fundamental principles of the subject in a manner so plain as to render them intelligible and useful to students of astronomy and engineering. The following subjects will be studied: Law of probability and error, adjustment of observations, precision of observations, independent and conditioned observations, etc. *I.; Tu., Th.; 4; (2).* Mr. BRENKE.

Required: Mathematics 8a, or 9.

15. SEMINARY AND THESIS.—*I., II.; Tu., Th.; 8; (2).* Associate Professor TOWNSEND.

16. DIFFERENTIAL EQUATIONS.—This subject is designed for students in the courses of engineering and of mathematics and astronomy. It will embrace the following topics: General linear equations with constant coefficients, special forms of differential equations of higher order, integration in series, etc. *I.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 8a, or 9.

17. ANALYTICAL GEOMETRY OF SPACE.—A general review will be given of the position of the plane and the right line in space and the more general properties of surfaces of the second degree. To this will be added the classification and special properties of quad-

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ratics, and a brief introduction to the theory of surfaces in general. *II.; M., W., F.; 7; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8a (or 7), 11.

18. HIGHER PLANE CURVES.—This course is designed to cover the general theory of algebraic curves, together with the application of the theory of invariants to higher plane curves. Special study will be made of curves of the third and fourth order. *I.; M., W., F.; 8; (3).* Associate Professor TOWNSEND.

Required: Mathematics 12.

20. CALCULUS OF VARIATIONS.—This course has for its aim merely to acquaint the student with those elements of the science which are most needed in the study of the higher subjects of mathematical astronomy and physics. *II.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 11, 16.

21. SPHERICAL HARMONICS.—In this course, a thorough study is made of so much of this subject as is of interest to an astronomer. It is introduced by a short course of lectures and study of certain trigonometric series. Fourier's Theorem for developing any function of a variable in a series proceeding in sines and cosines of multiples of the variable is derived and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's, and Lamé's functions and their applications to astronomical and physical problems. *I.; M., W., F.; 6; (3).* Associate Professor TOWNSEND or Mr. BRENKE.

Required: Mathematics 11, 14, 16.

22. POTENTIAL FUNCTION.—The potential function is defined and its properties derived and discussed. The potential of various bodies, such as of wire, a spherical shell, a sphere, ellipsoid of revolution, etc., is computed. Poisson's and Laplace's Equations are derived and discussed. Green's Propositions with kindred and similar subjects are handled. *II.; M., W., F.; 6; (3).* Associate Professor TOWNSEND or Mr. BRENKE.

Required: Mathematics 21.

23. MODERN GEOMETRY.—This course will include in general a consideration of homogeneous coördinates, duality, descriptive and metrical properties of curves, anharmonic ratios, homography, involution, projection, theory of correspondence, etc. *I.; M., W., F.; 7; (3).* Mr. COAR.

Required: Mathematics 8b or 9, 11.

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24. Algebraic Surfaces.—In this course will be considered the application of homogeneous coördinates and the theory of invariants to geometry of three dimensions, and also the general theory of surfaces, together with the special properties of surfaces of the third and fourth order. *II.; M., W., F.; 7; (3).* Mr. Coar.

Required: Mathematics 17, 18.

25. Partial Differential Equations.—It deals with the integration and determination of the integration constants of such partial differential equations as arise in the study of such subjects as the flow of heat, the vibration of strings, plates, etc., and electricity. *II.; Tu., Th.; 1; (2).* Associate Professor Townsend.

Required: Mathematics 8a or 9, 16.

26. Statistical Adjustments.—This course is intended for students whose work requires the handling of a mass of data, statistical or observed, which is vitiated by the presence of accidental errors, in such a way as to deduce the most probable result by the application of mathematical principles. The course will be found particularly useful to students of economics and of the observational sciences, as well as to those who wish to study the mathematical theory of insurance. For the convenience of students, it will be given in two parts, of which the first may be taken alone or in connection with the second. The two parts, when taken with zoölogy or economics 24, may be counted as a five-hour course in mathematics.

(a). Theory of Statistical Adjustments.—This part of the course will include a discussion of the following topics: The general method of statistical investigation, the use and abuse of the arithmetical and the geometrical average, application of averages to tabulation, graphic methods of deducing the law of error, interpolation, and the application of the theory of probability to statistics. *II.; M., W.; 7; (2).* Mr. Milne.

Required: Mathematics 8a.

(b). Applications.—A problem course, in which the applications of the principles developed in (a) are made to specific problems in economics, biological sciences, insurance, etc. This part of the course may be taken simultaneously with (a). *II.; Th., F.; 7; (2).* Mr. Milne.

Required: Mathematics 8a, 26a.

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MECHANICAL ENGINEERING

Professor Breckenridge, Assistant Professors Goodenough, Schmidt and Gerdtzen, Mr. Oliver, Mr. Curtiss, Mr. Jones, Mr. Wilson, Mr. Fraser, Mr. Veirs, Mr. Scroggin.

1. Shop Practice.—In the shops the work, as far as possible, is carried along the same lines as in our leading commercial shops. The exercises are, in general, chosen from parts of machines under construction, and carefully graded to the skill of the student. Beginning with the care and use of the tools with which he is to work, the student is carried through the various operations of machine-shop practice. Following is an outline of the work, that of the two semesters being subject to transposition.

(a) First Semester, Wood Shop.—Primary exercises relating to the care and use of tools, and a series of exercises preparatory to pattern making in joint work and turning.

Pattern and core box making, with special reference to molding.

Second Semester (b) Foundry and (c) Forge Shop.—One-half of this semester is devoted to instruction in the management of the cupola and molding, including the making of green and dry sand cores. One-half of the semester is devoted to instruction in forging and welding iron and steel. Special attention is given to tempering of lathe and planer tools, also to case-hardening and annealing. *I., II.; alternates with G. E. D., 4 sections; 1, 2, 3, 6, 7, 8; (3).* Mr. Curtiss, Mr. Wilson, and Mr. Jones.

2. Shop Practice.—First Semester. Instruction in chipping, filing, and elementary machine work. Lectures.

Second Semester.—Instruction in the various operations of lathe, screw machine, planer, drill press, shaper, grinding machine, milling machine, boring mill, as well as fitting and bench work. Lectures. *I., II.; daily; 1, 2, 3, 6, 7, 8 (divides times with M. E. 4); (2½).* Mr. Fraser.

3. Power Measurement.—This is the beginning of the work in the mechanical engineering laboratory, and is intended for students taking the mechanical engineering course. A study is made of the use and construction of the steam engine indicator. The measurement of power developed by the steam engine under different conditions is made a prominent part of the work. The method of applying friction brakes and measuring transmitted power is also taken up. *I.; section A, Tu., 3, 4, 5; S., 1, 2, 3; section B,*

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Tu., 8, 9; W., 1, 2, 3; S.; section C, Th., 3, 4, 5; S., 1, 2, 3; (2). Mr. OLIVER.

Required: Mechanical Engineering 1, 2; Math. 9.

4. ELEMENTS OF MACHINE DESIGN.—The basis of this work is found in *Klein's Elements of Machine Design. A series of plates* 26x40 inches is constructed, covering a wide range of machine parts. By means of a large number of practical examples, sufficient drill is obtained in using rational and empirical formulas to enable the student to make the calculations required when designing various parts of machines. Theoretical and practical problems relating to gearing are taken up and worked out in detail. Instruction in blue printing and duplicating is included in the course. *Kent's Mechanical Engineer's Pocket-book; also Unwin's Machine Design. I., II.; (divides time with M. E. 2); daily; 1, 2, 3, 6, 7, 8; (2½).* Assistant Professor GERDTZEN and Mr. VEIRS.

Required: General Engineering Drawing 1, 2.

5. MECHANISM.—This course includes a study of plane motion, following the methods of Reuleaux, and a study of the nature and equivalence of mechanisms. Determination of instantaneous centers and centrodes. Determination of velocities of important points of familiar mechanisms. Construction of acceleration diagrams. The transmission of motion in mechanisms by gearing, cams, links, etc. Analysis of difficult mechanisms. Particular attention is paid to problems relating to gearing, steam-engine mechanisms, governors, link motions, valve gears, and indicator reducing motions.. *I.; M., W., F.; 2, 3; (3).* Assistant Professor GOODENOUGH.

6. HEAT ENGINES.—The application of the theory of thermodynamics to gas and gasoline engines and hot air engines. A study of the modern forms of heat engines. Lectures and assigned readings. *I.; Tu., Th.; (2).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1; Physics 1, 3.

7. THERMODYNAMICS.—The fundamental principles underlying the transformation of heat into work, more especially as exemplified in the steam engine, are carefully studied. Considerable attention is paid to the solution of numerous examples, such as arise in steam, air, or gas engineering. Drill is given in the rapid and accurate use of standard steam tables. *I.; M., W., F.; 1; (3).* Assistant Professor GOODENOUGH.

Required: Math. 9; Theoretical and Applied Mechanics 1; Physics 1, 3.

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8. MECHANICS OF MACHINERY.—This is a study of the theoretical principles involved in the construction of hoisting apparatus, pumping engines, air compressors, fans, blowers, machinery for transmitting power, locomotives, pile drivers, and other machinery of this character. *II.; M., Tu., W., Th.; 1; (4).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 5, 7, 14.

9. ADVANCED DESIGNING.—The work in this course comes under two heads.

Original Design: This part of the course is intended more especially to develop and train the student's inventive ability. The work begins with simple problems and extends to more difficult designs as the student progresses. The machines are to be designed for accomplishing a certain prescribed work. Often but a single piece is handed the student, and a machine is required which will produce a given number of these pieces per hour.

Advanced Design: This includes primarily the design of heavy machinery, such as punches, shears, presses, cranes, derricks, etc., machinery subjected to heavy and variable stresses. The design of attachments to existing machines, or the complete design of some machine that can be built in the shops, is often a part of this work.

A large amount of study of existing machines is required. The student is taught to consult the standard works on designing, such as *Unwin, Reuleaux, Klein, Bach's Maschinenelemente, and Richards. I.; Tu., Th.; 2, 3, 4; (2). II.; M., W., Th.; 2, 3, 4; (3).* Assistant Professor GERDTZEN.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 8, and 14.

10. ESTIMATES, SPECIFICATIONS, AND SUPERINTENDENCE.—Calculations and estimates are made as to the cost of machinery, power plants, boilers, chimneys, systems of piping, engines and their foundations, different methods of power transmission. Also forms of contracts and specifications are studied. *II.; Tu.; 2, 3; (1).* Professor BRECKENRIDGE.

Required: Theoretical and Applied Mechanics 1, 2, 3.

12. ADVANCED MECHANICAL ENGINEERING LABORATORY.—This work is a continuation of the work begun in the junior year. Experiments are made with engines, pumps, motors, injectors, and boilers to determine under what conditions they may be expected to give a maximum efficiency. Tests of plants in the vicinity are made,

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of which carefully prepared reports are always required. The dynamometer car and the railway test car described under the equipment of the department give unexcelled opportunities for experimental railway engineering. Advanced constructive work in the shops is assigned to groups of students, in order to impress upon them the intimate relation existing between the designing room and the shop. *Carpenter's Experimental Engineering. I.; M., F.; 2, 3, 4; and 6, 7, 8; (4). II.; F.; 1, 2, 3; and 6, 7, 8; (1).* Professor BRECKENRIDGE, Assistant Professor SCHMIDT, and Mr. OLIVER.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 7, 14.

13. MECHANICAL ENGINEERING LABORATORY.—This is a laboratory course for students in other departments of the College of Engineering. The student is taught to apply the indicator to different engines and to make the usual calculations of horse power and steam consumption as given by the diagrams. Correct forms of reducing motions are explained. The reading of indicator diagrams and valve setting are also taught. *II.; section A, M., 2, 3, 4; Tu., 1, 2, 3; section B, M. 2, 3, 4; Th., 1, 2, 3; section C, M. 2, 3, 4; Th., 6, 7, 8; (2).* Mr. OLIVER.

Required: Mechanical Engineering 1, 2; Math. 7, 9.

14. HIGH SPEED STEAM ENGINE.—In this course the relations between piston speed, expansion, and quiet running are carefully studied. The student is given the problem of designing an engine that will develop a prescribed maximum and minimum horse power and run smoothly at all loads within its range. Each part of a complete engine is designed, and detailed drawings are made and traced, so that each member of the class may have a complete set of blue prints. *Klein's High Speed Steam Engine. I.; Tu., W., Th.; 6, 7, 8; (3).* Professor BRECKENRIDGE.

Required: Mechanical Engineering 1 to 7, 16, 17; Theoretical and Applied Mechanics 1, 2.

16. STEAM ENGINES.—For students in other departments of the College of Engineering. A study of the details of steam engines. Elementary principles of transformation of heat into work. Laws of expansion of steam. The mechanics of the steam engine. Valves and valve gears. The indicator diagram, condensers, steam jackets, super-heaters, and compound engines. *The Steam Engine, Holmes. I.; section B, Tu., Th.; 1; section C, M., W., 3; section D, M., W., 1; (2).* Assistant Professor SCHMIDT.

Required: Physics 1, 3; Mathematics 9.

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17. STEAM BOILERS.—Materials used in the construction of boilers. Proportions and strength of riveted joints. Incrustation, explosions, combustion, safety appliances, feed apparatus, boiler trials. *Peabody and Miller's Steam Boilers. II.; 3 sections; M.; 1, 2, 3; (1).* Assistant Professor SCHMIDT.

Required: Physics 1, 3½ Mathematics 9; Chem. 1.

18. GRAPHICAL STATICS OF MECHANISM.—Fundamental principles. Graphical determination of the forces acting at different points in machines used for hoisting, crushing, punching, and transmitting motion, taking into account the resistances offered to motion by frictional resistances. Effect of sliding, rolling, and journal friction, chain friction, tooth friction, stiffness of ropes and belts. Graphical determination of efficiencies. Analysis of stresses in cranes and simple trusses. *Graphical Statics of Mechanism, Herrman-Smith. Hoskins' Graphic Statics. II.; W.; 6, 7, 8; Sat.; 1, 2, 3; (2).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2; Mechanical Engineering 5.

19. SEMINARY.—Work supplementary to other studies of the senior year. Presentation of papers on assigned subjects. Contributed papers on current topics. Discussion of and criticisms on new inventions. *I.; W.; 2, 3. II.; 6, 7; (1).* Professor BRECKENRIDGE

20. SHOP PRACTICE FOR SPECIAL STUDENTS.—This course is open to those entering as special students, as defined elsewhere under "Admission." The work will be arranged after consultation. The work done does not count for a credit for graduation in any of the technical courses. *Arrange time.* Mr. FRASER.

21. FORGE SHOP PRACTICE.—This course is designed for students taking the course in Agriculture. The work covers instruction in forging, such as will be of use to the practical farmer. The course may be started at the beginning or middle of either semester; *arrange time at 1, 2, 3, or 6, 7, 8; nine hours a week; (2).* Mr. JONES.

22. WOOD SHOP PRACTICE.—This course is intended for students taking the course in Agriculture. Students should arrange with the instructor for nine hours' work each week. *I. or II.; 1, 2, 3, or 6, 7, 8; (3).* Mr. CURTISS.

23. STEAM ENGINES AND VALVE GEARS.—For students in Mechanical Engineering. A study of the mechanical features of the steam engine. The application of the Zeuner diagram to the solution of valve gear problems. Single and double valve gears and

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link motions. Governors of various types. The mechanics of the steam engine. Effect of inertia of reciprocating parts. Diagrams of tangential pressure on the crank pin. *I.; Tu., Th.; 2; (2).* Assistant Professor GOODENOUGH.

COURSES FOR GRADUATES

Primary

101. Advanced Machine Design.
102. Graphics and Kinematics.
103. Mill Engineering.
104. Steam Engineering.
105. Experimental Engineering.
106. Thermodynamics.
107. Pneumatics.
108. Hydraulic Machinery.
109. Mechanical Technology.
110. Translation of Technical Engineering Work.
111. Heat Engines and Gas Engineering.
112. Locomotive Engineering.
113. Mechanical Refrigeration.

Secondary

120. Any primary offered in the College of Engineering.

Primary subjects may be taken as secondary in any course for the master's degree in the College of Engineering.

121. Indexing and Classification of Engineering Literature.

MECHANICS, THEORETICAL AND APPLIED

Professor TALBOT, Mr. SLOCUM, Mr. MITCHELL.

1. ANALYTICAL MECHANICS.—The Mechanics of engineering, rather than that of astronomy and physics, is here considered. In addition to fixing the fundamental concepts and demonstrating the general principles of equilibrium and motion, application of principles and methods is made to numerous and varied engineering problems in such a way that the student must discriminate in the use of data and in the statement of conditions. As mathematical processes and forms express most readily and quickly the rules and methods for the solution of these problems, such training is given with special care. This subject requires a thorough working knowledge of the mathematics preceding it in the course. The methods of the calculus are used whenever preferable.

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Outline of the subject: Nature and measure of force; composition and resolution of forces; moments; conditions of equilibrium; resultant of systems of forces; center of gravity; moment of inertia; rectilinear and curvilinear motion, and the relation between such motion and the constraining and accelerating forces; dynamics of a rigid body; momentum and impact; work, energy, and power; mechanical advantage. *Bowser's Analytical Mechanics. I.; first 14 weeks; daily; section A, 1; section C, 1; section D, 3; section E, 4; section B, 2; (4).* Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: Mathematics 9.

2a, b. RESISTANCE OF MATERIALS.—In the treatment of this subject it is the aim to give the student a thorough training in the elementary principles of the mechanics of materials, to follow with such experiments and investigations in the materials laboratory as tend to verify the experimental laws, and to add such problems in ordinary engineering practice as will train the student in the use of his knowledge. Attention is also given to the quality and requirements for structural materials.

Outline of the subject: Elasticity of materials; stresses and strains; experimental laws; working strength for different materials; resistance of pipes and riveted joints; bending and resisting moment, shear, and elastic curve of cantilever, simple, restrained, and continuous beams; column formulas; torsion and shafts; maximum internal stresses in beams; fatigue of metals; working strength for repeated stresses; resilience; reliability of the common theory of flexure, as shown by actual experiment; design and strength of rolled and built beams and columns; specifications for materials and methods of testing. *Merriman's Mechanics of Materials. I.; last four weeks; daily; section A, 1; section B, 2; section C, 1; section D, 3; section E, 4; II.; first 7 weeks; Tu., W., Th., F.; section A, 1; section B, 4; section C, 1; section D, 3; section E, 4; arrange for one laboratory period of two hours each week; (3).* Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: Math. 9; Theoretical and Applied Mechanics 1.

3. HYDRAULICS.—In hydraulics the instruction is by text-book and laboratory work. The laws of the pressure and the flow of water and its utilization as motive power are considered. Experimental work in the hydraulic laboratory gives training in the observation and measurement of pressure, velocity, and flow, and in the determination of experimental coefficients.

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The subject covers the following: Weight and pressure of water; head; center of pressure; velocity and discharge through orifices, weirs, tubes, nozzles, pipes, conduits, canals, and rivers; measurement of pressure velocity, and discharge; meters and measurements; motors, turbines, and water wheels; water power. *Merriman's Hydraulics. II.; last 11 weeks; Tu., W., Th., F.; section A, 1; section B, 4; section C, 1; section D, 3; section E, 2; arrange for one laboratory period of two hours each week; (3).* Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: Mathematics 9; Theoretical and Applied Mechanics 2.

4. APPLIED MECHANICS.—To be taken instead of Analytical Mechanics. The course of study and topics studied will be nearly identical. *Wright's Mechanics. I.; M., W., Th., F.; 1; (4).* Assistant Professor MCLANE.

Required: Mathematics 6.

5. STRENGTH OF MATERIALS.—To be taken instead of Resistance of Materials. The course of study will be nearly the same, though somewhat simplified. *Merriman's Mechanics of Materials. II.; M., W., F.; 3; Th.; 4; laboratory, W.; 8 and 9; (4).* Assistant Professor MCLANE.

Required: Mathematics 6; Theoretical and Applied Mechanics 4.

COURSES FOR GRADUATES

101. Analytical Mechanics.
102. Resistance of Materials.
103. Hydraulics and Hydraulic Engineering.
104. Laboratory of Applied Mechanics.

MILITARY SCIENCE

Professor FECHÉT, Mr. FULLENWIDER, Mr. POST.

1. THEORETICAL INSTRUCTION.—Infantry drill regulations. For all male students. *II.; (1).* Professor FECHÉT.

2. PRACTICAL INSTRUCTION.—Infantry.—School of the soldier; company and battalion; evolutions of the regiment. Artillery.—School of the cannoneer and battery dismounted. Freshman and sophomore years. *I., II.; (1).* Professor FECHÉT.

3. THEORETICAL INSTRUCTION.—Sophomore, junior, and senior years; one hour each week. Drill regulations, military administra-

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tion, field engineering, and elements of military science. This course is obligatory upon commissioned and non-commissioned officers, and open to others. Professor FECHÉT.

Authorized text-books.—*United States Army Drill Regulations; United States Army Regulations; Manual of Field Engineering (Beach); Elements of Military Science (Wagner).*

MINERALOGY

See Geology 5 and 6.

MUNICIPAL AND SANITARY ENGINEERING

Professor TALBOT, Mr. SLOCUM, Mr. MITCHELL.

1. ROAD ENGINEERING.—The value and importance of road improvement in country highways and the best means of securing it are considered, together with the principles and details of construction of earth, gravel, and macadam roads. In city streets, the methods of construction, cost, durability, and desirability of the various kinds of pavement, and the questions of grades, cross-sections, methods of assessment of cost, and methods of maintenance and cleaning are treated. *Lectures and Reading. II.; W.; 3; Tu., Th.; 4; (2).* Professor BAKER.

Required: Math. 4; General Engineering Drawing 1, 2; Civil Engineering 1, 2, 3, 4.

2. WATER SUPPLY ENGINEERING.—This subject is intended to cover the principal features of the construction of water works, including the tests and standards of purity of potable water; the choice of source of supply; the designing of the distribution system, pumps and pumping machinery, reservoirs, and stand-pipes. *Lectures; Turneaure's Public Water Supplies. I.; M., Tu., W., Th.; 4; arrange for drafting, 12 periods; M., 6, 7, 8; (4).* Professor TALBOT and Mr. SLOCUM.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1; Mechanical Engineering 16.

3. SEWERAGE.—The design and methods of construction of sewerage systems of cities, including the following: Sanitary necessity of sewerage; water carriage systems, both separate and combined; surveys and general plans; hydraulics of sewers; relation of rainfall to storm water flow, and determination of size and capacity of sewers; house sewage and its removal; form, size, design, and

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construction of sewers and sewer appurtenances; modern methods of sewage disposal; estimates and specifications. *Lectures; Folwell's Sewerage. II.; M., W., F.; 4; arrange for drafting, 10 periods; M., 3, 4, 5; (3).* Professor TALBOT and Mr. SLOCUM.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1.

5a. BACTERIOLOGY.—For students in Municipal Engineering. This course includes the identification and classification of bacteria, and of allied organisms, their relations to health and to disease, the methods of separation and cultivation, and the methods of air and water analysis. The laboratory is furnished with sterilizers, culture ovens, microscopes, etc., and students have abundant opportunity to do practical work. This course follows Civil Engineering 4a. *I.; last 7 weeks; daily; 6, 7; (2).* Professor BURRILL.

6. WATER PURIFICATION, SEWAGE DISPOSAL, AND GENERAL SANITATION.—This work includes the consideration of impurities in water supplies and the study of the methods and processes of their removal; the modern methods of sewage disposal by filtration, chemical precipitation, irrigation, etc., with a study of representative purification plants; garbage collection and disposal; sanitary restrictions and regulations and general sanitation. Lectures and seminary work. *II.; Tu., W., Th., F.; 4; arrange for drafting period; (5).* Professor TALBOT.

Required: Municipal and Sanitary Engineering 2, 3, 5a; Chemistry 1, 3a.

COURSES FOR GRADUATES

Water Supply Engineering

101. Tanks, Stand-Pipes, and Reservoirs.

102. Sources and Requirements of Water Supply for a City and Removal of Impurities.

103. Water Works Management and Economics.

104. Pumps and Pumping.

105. General Water Works Construction.

106. Biological and Chemical Examination of Potable Water.

107. Description of Water Supply Systems.

Sewerage

111. Sewage Purification.

112. Sewage Disposal Works.

113. General Sewerage Design and Construction.

114. City Sanitation.

115. Description of Sewerage Systems.

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Road Engineering

118. Economic Aspect of Good Roads and Pavements.

119. Construction of Roads and Pavements.

MISCELLANEOUS SUBJECTS

121. Critical Description of Engineering Construction.

122. Translation of Technical Engineering Work from French or German.

123. Any Primary in Civil Engineering.

124. Any Primary in Theoretical and Applied Mechanics.

125. Any Primary in Mathematics, Mechanical Engineering, or Electrical Engineering—Secondary.

126. Indexing of Municipal and Sanitary Engineering Literature in Engineering Periodicals.

MUSIC

Professor LAWRENCE, Professor FERNIE, Mr. SCHELD, Miss MANN, Mrs. DANIELS, Mr. EISNER, Mr. BRENEMAN, Mrs. BRENEMAN.

Course 1, below, will be counted for credit toward the regular degree for students in the College of Literature and Arts, provided they are at the same time enrolled *in the School of Music*. Courses 21 and 22, following, are counted for credit for all students who take them.

1. HISTORY OF MUSIC.—Lectures on the development of music from its beginning among the Greeks to the present day, including the rise of dramatic music, the origin and progress of the oratorio, the evolution and development of instrumental forms, and studies in the lives of the composers. Assigned collateral readings. *I. and II.; arrange time; (3).* Mr. SCHELD.

2. THEORY OF MUSIC.—A course in harmony and counterpoint two hours a week, in class, through four semesters. *Two years. I., II.; (13).*

3. A course in harmony, counterpoint, and analysis, two hours a week, in class, through two semesters. *I., II.; (3).*

4. A course in fugue, two hours a week, in class, through one semester. *Richter's Fugue. I.; (3).*

5. A course in canon fugue and free composition which may be taken at the same time with the studies in counterpoint and fugue. The second, third and fourth parts of this course are open only to advanced students showing special aptitude. *II.; (3).*

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6. COURSE FOR THE PIANO.—*Preparatory.* This course is equivalent to three years' work. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, principles of technique, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. Music used:

(a) First Year. Köhler Practical Method; National Graded Course. *Bk. I.; Köhler Op. 151, 50.* Miss MANN and Mr. EISNER.

(b) Second Year. Herz' Scales and Exercises. *Loeschorn Op. 65, 66; Lemoine Op. 37; Bertini Op. 29, 32.* Miss MANN and Mr. EISNER.

(c) Third Year. *Czerny Op. 299; Bks. I., II.* Czerny Octave Studies; Bach, Little Preludes and Fugues; also easier sonatines and compositions by standard composers. Miss MANN and Mr. EISNER.

7. *Collegiate.* First year. Studies in development of technique: Czerny, Op. 299, Bks. 3, 4; Mayer, Octave Studies; Cramer, Etudes; Jensen, Etudes; Bach, Two-Voice Inventions and French Suites; sonatas of Haydn and Mozart; easier Sonatas of Beethoven; Songs Without Words, Mendelssohn; compositions (smaller works) of Beethoven, Chopin, Schubert, Raff, Grieg, Chaminade, Moszkowski, and others. *(10).* Professor LAWRENCE and Mrs. DANIELS.

8. Second Year. Daily technique: Czerny, Op. 740; Pacher, Octave Studies; Bach, Three-Voice Inventions and English Suites; Sonatas and other compositions of Scarlatti, Beethoven, Schubert, Schumann, Mendelssohn, Weber, Raff, Rubinstein, Saint Saens, Godard, MacDowell, and others. *(13).* Professor LAWRENCE and Mrs. DANIELS.

9. Third Year. Selections: Clementi, Gradus ad Parnassum; Moscheles, Op. 70; Kullak, Seven-Octave Studies, Bk. 2; Bach, Well-Tempered Clavichord; Sonatas and concertos by Mendelssohn, Weber, Beethoven, Hummel, etc.; selections from works of Bach, Chopin, Schubert, Schumann, Brassin, Rubinstein, Liszt, Moszkowski, Scharwenka, and other modern composers. *(17).* Professor LAWRENCE.

10. Fourth Year. Selections: Octave Studies; Clementi, Gradus, continued; Bach, Well-Tempered Clavichord, continued; Chopin, Etudes; Henselt, Etudes; Rubinstein, Etudes; Sonatas by Beethoven, and concertos and other compositions by the great masters, classic and romantic, both of the older and the more modern schools. *(17).* Professor LAWRENCE.

11. COURSE FOR THE VOICE.—*Preparatory.* This course varies

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from one to three years according to the ability of the student. The placing of the voice and proper position of the mouth and throat. Randegger's Singing. Fifty Concone Studies. Simple songs for rhythm, accent, and proper pronunciation of words. Mr. and Mrs. BRENEMAN.

12. *Collegiate.* First Year: Voice production, Randegger's singing continued. 25 and 15 Concone Studies, 40 Concone, Songs of Mendelssohn, Schubert, and those of good modern composers *(10)*. Miss FERNIE and Mr. BRENEMAN.

13. Second Year: Voice production. Viardot-Garcia's Hour of Study. Book 1 for technical work. Twenty-four Panofka for soprano and tenor, the Songs of German, French, and English composers, and simple selections from operas and oratorios. *(13)*. Miss FERNIE and Mr. BRENEMAN.

14. Third Year: Voice production. Viardot-Garcia's Hour of Study, Book II. Bordigni's Thirty-six Studies for soprano or tenor, its equivalent, Sieber or Bordese for alto or bass. Selections from oratorios and from French, German, and Italian operas. Songs of considerable difficulty by German, English, French, and Italian composers. *(17)*. Miss FERNIE.

15. Fourth Year: Voice production. Lütgen's Opera-vocalisen, Book II. Italian, French, German, and English songs of all standard composers. Solos and concerted works from the modern as well as the standard operas and oratorios. *(17)*. Miss FERNIE.

16. COURSE FOR THE VIOLIN.—*Preparatory.* Extending through two or three years. Elementary Studies for the violin. Technical exercises for the bow and fingers by Schubert, Spohr, Mazas, Schoen. Easy solos and duets. *(10)*. Mr. SCHELD.

17. *Collegiate.* First Year: Scale and Arpeggio Studies. Technic for bow and fingers. Studies by Kayser, Dout, Singer, and Mazas. Sonatinas, duets and solos. *(13)*. Mr. SCHELD.

18. Second Year: Technical Studies through all positions. Studies by Kreutzer, Fiorillo, Leonard, Mazas. Duets and solos, older concertos. Mr. SCHELD.

19. Third Year: Technical training in double scales, and double stopping. Studies by Rolle, Garinier, Schradieck, Mayreder, Vieuxtemps and Paganini. *(17)*. Mr. SCHELD.

20. Fourth Year: Sonatas, solos, duets, trios, and ensemble playing. Concertos by classical and modern composers. *(17)*. Mr. SCHELD.

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21. UNIVERSITY ORCHESTRA.—Two hours' rehearsal once a week throughout the year. *(2).* Professor LAWRENCE.

22. UNIVERSITY CHORAL SOCIETY.—One hour rehearsal once a week throughout the year. *(1).* Miss FERNIE.

PALEONTOLOGY

See Geology 1b, 9.

PHILOSOPHY

Professor DANIELS.

1. LOGIC.—For the required credit in philosophy, students may select either of the following courses:

a. This course considers the nature of judgment and inference. Emphasis is laid upon practice in division, definition, forms of syllogism, deductive and inductive fallacies. This course is recommended to students who are interested in psychology or philosophy. *I.; M., W., F.; 2; (3).*

b. Special attention is given to fallacies and to the problems, grounds, and principles of induction. The study is designed not only to direct the student in practical reasoning and correct thinking, but also to familiarize him with the principles and methods of scientific investigation. *II.; M., W., F.; section A, 1; B, 2; (3).* Professor DANIELS.

2. OUTLINES OF PHILOSOPHY.—A general introduction to the study of philosophy. *I.; M., W., F.; 1; (3).* Professor DANIELS.

3. ANCIENT AND MEDIAEVAL PHILOSOPHY.—A rapid survey is taken of the development of speculative thought, beginning with the early Greek philosophers and continuing through the mediæval period. *I.; Tu., Th.; 3; (2).* Professor DANIELS. [Not given in 1902-1903.]

4. MODERN PHILOSOPHY.—This course considers the formation and development of the problems and conceptions in philosophy from Déscartes to the present time. Selections from the philosophical masterpieces of this period are carefully studied. Special emphasis is laid upon the philosophy of Kant. *II.; M., W., F.; 3; (3).* Professor DANIELS.

5. ADVANCED PHILOSOPHY.—The seventeenth century philosophy. A critical study of Déscartes, Spinoza, and Leibnitz. *I., II.; Tu., Th.; 7; (2).* Professor DANIELS.

Required: Two semesters in Philosophy or Psychology. [Not given in 1902-1903.]

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6. PRACTICAL ETHICS.—In this course those questions which bear the closest relation to life and conduct are raised and discussed. The duties of the individual, the family, and the state are among the subjects considered. Special subjects in social ethics may be taken up. *I.; Tu., Th.; 1; (2).* Professor DANIELS. [Not given in 1902-1903.]

7. HISTORY AND CRITICISM OF ETHICAL THEORIES.—A careful and historical examination of the various types of ethical theory, including rational, hedonistic, eudemonistic, esthetic, and evolutional ethics. It is designed to make the student as familiar as the time allows with the writings of representative men of the various schools. *II.; Tu., Th.; 3; (2).* Professor DANIELS.

8. ESTHETICS.—A brief history and a critical study of the various theories of the beautiful. Lectures and assigned readings. *II.; Tu., Th.; 4; (2).* Professor DANIELS. [Not given in 1902-1903.]

9. POLITICAL ETHICS, HISTORICAL AND APPLIED.—A study of various phases of thought concerning the ethics of social organizations; theories of the nature of the state, including views of the state of nature, of natural law and natural right. A discussion of rights and duties in relation to social institutions; international rights and duties; the ethics of diplomacy. *I.; Tu., Th.; 1; (2).* Professor DANIELS.

10. PHILOSOPHIC THOUGHT IN ENGLISH LITERATURE OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—Primarily for students who are specializing or taking major work in English, and open to senior and graduate students only. *I., II.; Tu., Th.; 8; (2).* Professor DANIELS.

COURSE FOR GRADUATES

101. THE PHILOSOPHY OF KANT.

PHYSICAL TRAINING

Director HUFF, Director CARPENTER, Mr. CONIBEAR, Mr. KREIKENBAUM.

For Men

1. GYMNASIUM PRACTICE.—Two hours' class-work, or two hours' prescription exercises, each week. *Required of freshmen. Must be taken with course 3. I., II.; arrange time; (1).* Mr. HUFF and Mr. KREIKENBAUM.

2. GYMNASIUM PRACTICE.—Two hours' class-work or two

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hours' prescription exercises. *With course 4. I., II.; arrange time; (1).* Mr. KREIKENBAUM.

Required: Physical Training 1 and 3.

3. LECTURES.—Lectures upon bodily health, including such subjects as the bath, sleep, diet, ventilation, clothing, injuries from over-work and study, sedentation, tobacco, alcohol, improper posture, etc. *Once a week. Freshmen are required to attend this course, together with course 1. I., II.; arrange time; (1).* Mr. HUFF.

4. LECTURES.—Muscular form and action, effects of exercise, causation of fatigue, breathlessness, coördination, automatism, deformities, etc. *Once a week in combination with course 2. I., II.; arrange time; (1).* Mr. HUFF.

Required: Physical Training 1 and 3.

5. THEORY OF PHYSICAL TRAINING.—For those preparing as instructors. Study of the systems of gymnastics; methods of teaching; class work; use of apparatus; effects on body; measurements; testing, prescription. *I., II.; arrange time; (1).* Mr. KREIKENBAUM.

Required: Courses 2 and 4.

6. COMPETITIVE ATHLETICS.—History of games and sports; general training; special forms and methods of coaching for track, fencing, wrestling, boxing, base ball, foot ball, basket ball, etc. *I., II.; arrange time; (1).* Mr. HUFF, Mr. CONIBEAR, and Mr. KREIKENBAUM.

Required: Physical Training 2 and 4.

For Women

7. PRACTICE.—Class and prescription exercises in the gymnasium and field. *Three hours a week throughout the year. Required of freshmen. With course 9, 3 semester hours.* Miss CARPENTER.

8. PRACTICE.—*Three hours a week throughout the year. (1).* Miss CARPENTER.

Required: Physical Training 7, 9.

9. HYGIENE.—The same as physiology 6, which see. *Required of freshmen. With course 7, 3 hours.* Professor KEMP.

PHYSICS

Professor CARMAN, Assistant Professor SAGER, Assistant Professor QUICK, Mr. SCHULZ.

1. GENERAL PHYSICS.—Lectures with class-room demonstrations. The subjects for the first semester are mechanics, heat, and

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sound; for the second semester, electricity and magnetism and light. The course is arranged to be taken in connection with the laboratory course, Physics 3. *I., II.; Lectures, M., W., F.; 5; Quiz, Tu. or Th.; 3, 5; (3).* Professor CARMAN and Mr. SCHULZ.

Required: Mathematics 3 or 4.

2. SHORTER COURSE IN GENERAL PHYSICS.—Lectures and recitations on phenomena and theory. *Lectures, Tu. and Th.; 5 and 8, with quiz hour to be arranged; (5).* A laboratory course under Physics 3 should be arranged to accompany or to follow this course. Professor CARMAN, Assistant Professor SAGER, Mr. SCHULZ.

Required: Mathematics 3 or 4.

3. INTRODUCTION TO PHYSICAL MEASUREMENTS.—Laboratory experiments running parallel with lecture courses. Students in Physics 1 take one experiment per week for one year. Students having had or taking Physics 2 may arrange double work if desired, so as to take the course in one semester. The experiments are quantitative, illustrative of lectures and preparatory to more advanced laboratory work. *I., II.; 3 periods for an experiment; arrange time; (2).* Professor CARMAN, Assistant Professor QUICK, Mr. SCHULZ.

Required: Mathematics 3 or 4.

4. ELECTRICAL AND MAGNETIC MEASUREMENTS.—Recitations and laboratory. The course of recitations and lectures covers the elementary mathematical theory of electrostatics, magnetism, magnetic properties of iron, electrodynamics, and direct, alternating, and Polyphase currents. In the laboratory the usual electrical and magnetic measurements are made, the work running parallel with the recitation work. *I., II.; Lecture, Tu., Th.; 6; Laboratory; arrange time.* Assistant Professor SAGER.

Required: Physics 1, 3; Mathematics 9 or 8a.

The following laboratory courses are offered, to be taken preferably in connection with or following the corresponding courses in Theoretical Physics 6a—6d.

5a. MECHANICS.—A course in exact measurements of mass, length, volume, density, time, and gravity, using balance, dividing engine, cathetometer, chronograph, etc. *I. or II.; arrange time; (3 or 5.)* Assistant Professor SAGER.

Required: Physics 1 or 2, and 3.

5b. LIGHT.—Measurements of indices of refraction and wave lengths, using the spectrometer with prisms and grating, the concave grating with its mounting; also the use of the optical bench

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in experiments in interference; photometric measurements and the use of the spectrum-photometer. *I. or II.; arrange time; (3 or 5).* Assistant Professor SAGER.

Required: Physics 1 or 2, and 3.

5c. ELECTRICITY AND MAGNETISM.—A course of exact measurements of resistance, current, electromotive force, capacity, and magnetic quantities. *I. or II.; arrange time. (3 or 5).* Assistant Professor SAGER.

Required: Physics 1 or 2, and 3.

5d. ELECTRICITY AND HEAT.—A course of measurements of resistance, current, electromotive force and electrolytic conductivity, and some measurements of specific heat and thermal capacity. Designed particularly for students in chemistry or general science. *I. or II.; arrange time; (3 or 5).* Assistant Professor SAGER.

Required: Physics 1 or 2, and 3.

The following courses of recitations and lectures on the elementary mathematical theory of physics are offered. Physics 6a is designed to be the basis of all the advanced theoretical work. A knowledge of the methods of calculus is indispensable.

6a. MECHANICS.—An elementary mathematical consideration of kinematics, dynamics, statics, work and energy, together with gravitational attraction and potential. *I.; M., W., F.; 2; (3).* Assistant Professor SAGER.

Required: Physics 1; Mathematics 9 or 8a.

6b. LIGHT.—*Preston's Light II; Tu., Th.; 2; (2).* Assistant Professor SAGER.

Required: Physics 6a; Mathematics 9 or 8a.

6c. ELECTRICITY AND MAGNETISM.—*J. J. Thomson's Elementary Mathematical Theory. II.; M., W., F.; (3).* Assistant Professor SAGER.

Required: Physics 6a; Mathematics 9 or 8a.

6d. HEAT.—*Preston's Heat. I.; Tu., Th.; (2).* Professor CARMAN and Assistant Professor SAGER.

Required: Mathematics 9 or 8a.

7. INVESTIGATION OF SPECIAL PROBLEMS.—An advanced course in the laboratory or in design and calculation, in continuation of Physics 4, 5, or 6. A special topic is assigned and worked out with the advice and direction of the professor. The repeating of some classic investigation may be assigned. Among the recent problems were the following designs of pieces of apparatus which were also constructed and calibrated in the department: An inductance with-

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out iron, variable continuously from zero to 1.2 henry; an inductor dynamo machine giving a sine wave; an exact potentiometer to measure to 150 volts and also to 150 amperes; two testing tables for standardizing ammeters and voltmeters. *I., II.; arrange time; (3) or (5).* Professor CARMAN and Assistant Professor SAGER.

Required: Two semesters of physics in advance of Physics 1 and 3.

8. MATHEMATICAL PHYSICS.—Lectures and recitations. The course is designed to enable the student to follow for himself the leading theoretical articles in the current journals. The Mechanics of the Luminous and Electrical Ether is the special topic for 1902-03. *I., II.; arrange time; (3).* Professor CARMAN.

Required: Physics 6a.

9. ADVANCED ELECTRICAL MEASUREMENTS.—A course in the theory and practice of the calibration of electrical measuring instruments, using the potentiometer and other standard methods. *II.; arrange time; (1).* Assistant Professor SAGER.

Required: Physics 4.

10. INVESTIGATION AND THESIS.—*I., II.; arrange time; (3) or (5).* Professor CARMAN and Assistant Professor SAGER.

COURSES FOR GRADUATES

101. Advanced Physical Measurements and Investigation.

102. Mathematical Physics.

103. Mathematical Theory of Electricity and Magnetism for Engineers.

PHYSIOLOGY

Professor KEMP, Mr. STANLEY.

1. MAJOR COURSE.—This course is founded on the previous thorough training of the student in physics, chemistry, and zoölogy. The course is designed primarily to prepare those taking it to enter upon the study of medicine. The work begins with a comprehensive study of the microscopic structure of the tissues in general, and later includes the structure of the organs in particular, with special relation to their functions. The course, together with courses in chemistry recommended for prospective medical students, will complete a very thorough study of physiological chemistry, so far as it relates to the normal composition and functions of the organs and excretions. Frequent demonstrations in experimental physiology are given before the class, and the student is required to perform a num-

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ber of such experiments under the immediate direction of the instructor. In addition, the students, working in small groups, will be required to perform assigned experiments, and to submit their records and data for examination and criticism. Practical laboratory work is insisted on throughout. *I., II.; daily; 3, 4; (5).* Professor KEMP.

Required: Physics 1, 3; Chemistry 1, 2, 3a, 5a, 9, 9c; Zoölogy 2.

2. ADVANCED COURSE.—Continuation of Physiology 1 through a second year. This course is designed for students who wish to get as thorough a training as possible for the study of medicine, and who can afford to take the full science course at the University leading to the B.S. degree. The work will be made up of lectures, assigned reading, and experiments in the laboratory conducted by the students themselves, under the supervision of the instructor. Course 1 will necessarily give but a limited opportunity for such personal work on the part of the student. Course 2 will enable him to have a fair degree of experience with methods and apparatus used in the most advanced lines of medical study. *I., II.; daily 3, 4; (5).* Professor KEMP.

3. INVESTIGATION AND THESIS.—The laboratory of the physiological department is well equipped with instruments of precision for research in histology, physiological chemistry, experimental physiology, and pharmacology. Every facility and encouragement, so far as the resources of the laboratory permit, are offered to those prepared to avail themselves of these for researches leading to theses for the bachelor's, master's, or doctor's degree, or for carrying on original work for publication.

4. MINOR COURSE.—This course is planned for literary students and for students of natural science specializing in other lines. Especial emphasis is laid upon those facts that serve as a basis for practical hygiene, and for helping students to teach physiology in high schools. It will consist of lecture demonstrations, recitations, and laboratory work. Students who have had chemistry and zoölogy in high schools may be admitted to the course at the option of the instructor. *II.; daily; 7, 8; (5).* Professor KEMP.

Required: Chemistry 1; Zoölogy 10.

5. SPECIAL PHYSIOLOGY.—There are here included the following lines of laboratory work, any one or more of which may be pursued independently of the others: (a) The physiology of foods, and digestion; (b) the blood, circulation, and respiration; (c) the

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excretions, especially urine analysis; (d) general physiology of nerve and muscle; (e) advanced vertebrate, especially human, histology. This course may be taken after Physiology 4, and is recommended for those who wish to work a year in Physiology without having the requirements to enter the class in Physiology 1. It may also be taken for less than five credits. Work to be arranged after consultation with Professor KEMP.

6. HYGIENE.—This course is offered to both men and women, and must be taken by young women who take physical training for credit. It is designed to impart a knowledge of the conditions of bodily health and activity. The course deals with those practical hygienic problems of everyday life that are wholly or in large part under the control of each individual. *I.; M.; 8; (1).* Professor KEMP.

PHYSIOGRAPHY

See Geology 8.

PSYCHOLOGY

Professor DEXTER and Assistant Professor COLVIN.

1. ELEMENTARY PSYCHOLOGY.—This course is intended for beginners in psychology. The whole field is covered as fully as the time will permit, and a substantial basis is given for further studies in psychology, philosophy, and education. James' Psychology is used as a text. *I.; M., W., F.; 2; (3).* Assistant Professor COLVIN.

Required: At least one year of University work.

2. INTRODUCTION TO PSYCHOLOGY.—The object of this course is twofold: To give the student a complete though tentative system of psychology based upon the results of experimental investigation; and at the same time to prepare him for further work in the subject. Lectures, themes, reading. *II.; M., W., F.; 2; (3).* Assistant Professor COLVIN.

Required: At least one year of University work.

3. EXPERIMENTAL PSYCHOLOGY.—The object of this course is to train the student in laboratory methods and give him an acquaintance with normal psychical phenomena. The laboratory periods are devoted to experiments in sensation and the time relations in mental processes. Lectures, recitations, themes, and laboratory work. Two lectures weekly and six hours' laboratory work. *I.; Lectures, M.,*

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W.; arrange time for laboratory; (5). Professor DEXTER and Assistant Professor COLVIN.

Required: Two years of University work.

4. EXPERIMENTAL PSYCHOLOGY.—This is a continuation of Course 3. The laboratory method is continued in the study of the higher psychic activities. The work is especially adapted to the needs of the teacher. *II.; Lectures, M., W.; 4; arrange time for laboratory; (5).* Assistant Professor COLVIN.

Required: Two years of University work.

5. GENETIC PSYCHOLOGY.—It is the plan of this course to take up in their natural order the various developmental stages of the human mind from the earliest days of infancy. The more substantial results of child study serve as a basis for the first part of the course, while the latter part is devoted to the phenomena of adolescence, and the intellectual problems confronting the youth. The development of the nervous system and growth of the body are traced in connection with the mental development, and the critical periods of both are given careful attention. The aim of the course is to serve as a basis for pedagogy, and to assist the student in solving, from the standpoint of psychology, the ethical and social problems of his own life. *I.; Tu., Th.; 3; (3).* Assistant Professor COLVIN.

Required: Two years of University work.

6. COMPARATIVE PSYCHOLOGY.—It is the aim of this course to trace the evolution of intelligence in connection with that of the nervous system from the lowest forms of animal life to that of man. The psychology of the higher vertebrates will be particularly studied and compared with that of the child and adult. The results of anthropology, as far as they throw light upon the problem of psychic evolution, will also be presented. Lectures, experiment, and observation, themes and reports. *I.; Tu., Th.; 4; (2).* Assistant Professor COLVIN.

Required: Psychology 1 or 2.

7. PSYCHOLOGICAL SEMINARY.—In this course for the coming year, the history of psychology will be taken up, beginning with Locke and continuing down through its experimental development, including the recent aspects of the subject. During the latter part of the year periodical literature will serve as the basis of reports. *I., II.; arrange time; (1).* Assistant Professor COLVIN.

Required: Psychology 1 or 2.

8. THE PSYCHOLOGY OF THE EMOTIONS AND THE WILL.—This

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course will consider critically the principal phenomena of volition and feeling as distinguished from those of the intellect. Illustrations will be taken largely from biography, history, and literature. Among characters from history will be Napoleon, Rousseau, Goethe, Byron, and Poe; from fiction, Romeo, Juliet, Hamlet, and Macbeth. *II.; Tu., Th.; 2; (2).* Assistant Professor COLVIN.

COURSE FOR GRADUATES

101. RESEARCH COURSE.—Though primarily for graduates, this course may be taken by seniors who give evidence of suitable preparation. If laboratory work, it must be preceded by psychology 1, 3, and 4. For other than a laboratory subject the required work will depend upon the subject.

RAILWAY ENGINEERING

[For instructors see Mechanical Engineering.]

1. LOCOMOTIVE ENGINES.—This work is a study of the constructive features of the locomotive in all its parts and of their relations. The development, applications, and limitations of the various types and their special study with reference to the relations between boiler and cylinder capacity, weight on drivers, speed, hauling capacity, etc. Tendencies in design. Includes also a study of all accessory apparatus used in the operation of locomotives. *I.; Tu., Th.; 1; (2).* Assistant Professor SCHMIDT.

Required: Theoretical and Applied Mechanics 1; Physics 1, 3; Mechanical Engineering 7.

2. LOCOMOTIVE ENGINE DESIGN.—The proportions and dimensions of standard locomotives are carefully studied. Calculations and designs relating to boiler and engine details, cylinder proportions for compound types of slide, valves, and valve gears. *I.; Tu., W., Th.; 6, 7, 8; (3).* Professor BRECKENRIDGE.

Required: Mechanical Engineering 1 to 7, 16, 17; Theoretical and Applied Mechanics 1, 2.

3. SHOP SYSTEMS.—Lectures and readings. Visits of inspection. A study of the proceedings of the societies and railway clubs and the technical press. *I.; Tu., Th.; 2, 3, 4; (2).* Assistant Professor SCHMIDT.

4. LOCOMOTIVE ROAD TESTS.—Arrangements for locomotive road tests have been perfected with several roads entering Champaign

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and Urbana. Already five locomotives have been equipped for this work and tests made in actual service conditions. This work is greatly facilitated by the use of the dynamometer and railway test cars which are now at the service of the department. This course includes also brake tests and other laboratory work. *I.; M., F.; (4).* Assistant Professor SCHMIDT.

Required: Theoretical and Applied Mechanics 3; Mechanical Engineering 5 to 7, 14.

5. COMPRESSED AIR IN RAILWAY SERVICE.—This will include a careful study of the construction and operation of the air-brake system in detail. The air-brake instruction cars of the I. C. R. R. and the C. C. C. & St. Louis Ry. make frequent stops at these points, and the instructors in charge kindly devote sufficient time to illustrate and explain the operation of the air-brake.

The use of compressed air in shop service is also studied. *II.; W.; 6, 7, 8; (1).* Assistant Professor SCHMIDT.

Required: Mechanical Engineering 7.

6. RAILWAY ESTIMATES.—A study of costs of materials and repairs. Forms of specifications for supplies. Costs of operation and maintenance of foreign and American practice compared. *II.; Tu.; 2, 3; (1).* Professor BRECKENRIDGE.

Required: Railway Engineering 1 to 4.

7. ADVANCED DESIGNING.—Under this head attention will be paid to details of rolling stock, pumps, gas and oil engines for water supply. Special machinery for repair shop service, turntables, and advanced problems relating to locomotive design. *II.; M., W., Th.; 2, 3, 4; (3).* Assistant Professor GERDTZEN.

Required: Theoretical and Applied Mechanics 3; Railway Engineering 1, 4.

8. DYNAMOMETER CAR TESTS.—Investigations will be made under actual road conditions relating to hauling capacity of engines, train resistance due to acceleration, grades, curves, and wind pressure. Air-brake service inspections. Automatic records of track conditions as to gauge, surface, joints, and elevation of rails. Tests at stationary plants and railway shops will be made.

Arrangements for careful and scientific sampling of fuels, boiler waters, oils, paints, varnishes, and railway supplies for analysis and tests will be included in this work. *II.; F.; (1).* Assistant Professor SCHMIDT.

Required: Railway Engineering 4.

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RHETORIC AND ORATORY

Professor CLARK, Assistant Professor FULTON, Miss KYLE, Mr. ROUNDS, Mr. HORNER, and Mr. SCOTT.

1. RHETORIC AND THEMES.—Required for students in the College of Literature and Arts. Two two-page themes a week criticised by the class and by the instructor. *Pearson's English Composition; Cairns' Forms of Discourse. I., II.; M., W., F.; section A, 1; B, 1; C, 2; D, 3; E, 4; F, 5; G, 6; (3).* Miss KYLE, Mr. HORNER, and Mr. SCOTT.

2. RHETORIC AND THEMES.—Required for students in the Colleges of Agriculture, Science, and Engineering. Two two-page themes a week, with an occasional four-page theme, criticised by the class and by the instructor. *Pearson's English Composition; Cairns' Forms of Discourse. I., II.; M., W., F.; sections A, B, C, 2; section D, 3; sections E, F, 7; section G, 8; (3).* Assistant Professor FULTON, Miss KYLE, Mr. HORNER, Mr. ROUNDS, and Mr. SCOTT.

3. ENGLISH COMPOSITION.—Daily themes one page in length, with exercises not to exceed four pages in length every fortnight. All written work is criticised by the instructor, and, if necessary, is required to be rewritten. *Wendell's English Composition. I., II.; M., W., F.; section A, 3; section B, 4; (4).* Professor CLARK.

Required: Rhetoric and Oratory 1 or 2.

4a. ARGUMENTATION.—Lectures on the principles of argumentation. Practice in the preparation of briefs and forensics. Debates in class, with criticism upon delivery. During the semester each student will write two briefs and two forensics, which are intended to illustrate the importance of analysis, evidence, constructive argument, refutation, and persuasion. *Alden, The Art of Debate. I.; M., W., F.; 4; (3).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

4b. EXPOSITION.—Practice in the preparation of formal addresses; study and analysis of modern orations, with the object of understanding their general structure; criticism and suggestion regarding sequence, emphasis, climax, and illustration. *II.; M., W., F.; 4; (3).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

5. ORAL DISCUSSION.—Discussion without notes of present day economic and political subjects; criticism of form, delivery, and subject-matter. Designed to secure ease, precision, alertness, and

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indcpendence in informal discussion. Adapted to the needs of students who have had experience in public speaking. *I., II.; Th.; 8; (1).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

6a. ENGLISH COMPOSITION (Advanced Course).—Two three-page exercises a week and four long themes a semester. Written criticism of themes by both students and instructor; all long themes to be rewritten after criticism. *Bates's Talks on Writing English. I.; M., W., F.; 2; (3).* Assistant Professor FULTON.

6b. ENGLISH COMPOSITION AND LITERATURE.—The study of rhetorical principles, as seen in literary masterpieces. Rhetorical analysis of the essays of Swift, Lamb, Newman, Arnold, and others. Two three-page themes a week and two long exercises a semester. *II.; M., W., F.; 2; (3).* Assistant Professor FULTON.

Required: Rhetoric and Oratory 1 and 3.

7a. PUBLIC SPEAKING.—A course for practical training in public speaking, beginning with the recitation of simple narrative and descriptive selections and proceeding with more difficult extracts from orations, according to individual ability. The object is to secure naturalness in form and directness in delivery. Criticism and instruction regarding position, enunciation, volume, inflection, and gesture. *The number admitted to this course is limited to thirty-six. I.; sections on M., Tu., and F.; 7; (1).* Mr. ROUNDS.

7b. PUBLIC SPEAKING.—Same as Rhetoric and Oratory 7a, beginning with the second semester. This course is not open to those who have taken Rhetoric and Oratory 7a. *II.; section A, M; section B, Tu.; section C, F.; 7; (1).* Mr. ROUNDS.

8. SEMINARY.—Methods of teaching English composition. Open to senior and graduate students. *I. or II.; W.; arrange time; (1).* Assistant Professor FULTON.

9. DRAMATIC READING.—Lectures; declamation of extracts from Shakespere; Macbeth, Othello, Julius Caesar, Hamlet, and Merchant of Venice read in class. *I., II.; Tu., Th.; 2; (2).* Mr. ROUNDS.

SOCIOLOGY

See Economics 17.

SPANISH

Professor FAIRFIELD.

1. GRAMMAR AND READING.—*Edgren's Spanish Grammar; Knapp's Spanish Readings; Cervantes' Don Quixote;* outlines of

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Spanish literature. *I., II.; M., W., F.; arrange time; (3).* Professor FAIRFIELD.

THEORETICAL AND APPLIED MECHANICS

See Mechanics (p. 256).

THREMMATOLOGY

Professor DAVENPORT.

1. APPLIED EVOLUTION.—The principles of evolution as applied to the improvement of domesticated animals and plants. Variation, its extent and causes. Selection and its effect in changing type, as illustrated both in nature and in domestication. The nature of heredity and the manner of its operation under the influence of environment. Reflex action, habit, and instinct, as bearing upon the question of the inheritance of acquired characters. The origin, correlation, and disappearance of characters. The laws of frequency and regression as bearing upon achievements that may be confidently expected. *I.; daily; 4; (5).* Professor DAVENPORT.

2. INVESTIGATION AND THESIS. *I. or II.; (5).* Professor DAVENPORT.

Required: Two years of University work.

VETERINARY SCIENCE

Professor MCINTOSH.

1. ANATOMY AND PHYSIOLOGY.—The anatomy and physiology of the domestic animals, diseases of the bony structure and lameness. The instruction is given by lectures aided by demonstrations with use of skeletons, and of other apparatus, as follows: Dr. Auzoux's complete model of the horse, which is in ninety-seven pieces and exhibits 3,000 details of structure; *papier-maché* model of the horse's foot; the teeth of the horse; and dissections of animals. This work is supplemented with the study of text-books. *Strangeway's Veterinary Anatomy, Mills's Animal Physiology,* and *Diseases of Horses and Cattle. I., II.; daily; 4; (5).* Professor MCINTOSH.

2. VETERINARY MATERIA MEDICA.—This subject, which treats of the agents for the cure of disease or injury, and for the preservation of health among domestic animals, is taught by lectures and text-books, illustrated by specimens of the drugs used in veterinary

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practice. The compounding of medicines also receives attention. Text-book, *Finlay Dun's Veterinary Materia Medica. I., II.; daily; 3; (5).* Professor McIntosh.

3. Theory and Practice of Veterinary Medicine and Surgery.—This subject is taught by lectures and text-books on the diseases of domestic animals, and is illustrated with specimens of morbid anatomy and by observations and practice at the free clinics. The latter are held at the Veterinary Infirmary once a week. The students assist in the operations, and thus obtain a practical knowledge of the subject. Dissections and *post-mortem* examinations are made as cases present themselves. Text-books, *Diseases of Horses and Cattle, by D. McIntosh, and Williams's Practice of Veterinary Medicine and Surgery. I., II.; daily; 2; (5).* Professor McIntosh.

ZOOLOGY

Professor Forbes, Assistant Professor Smith, Mr. McClellan, and Mr. Ross.

1. Invertebrate Zoölogy.—This course is arranged with special reference to teachers of zoölogy and to students who intend to take either a general or a special course of some length in this subject or in entomology. Following upon zoölogy 10, it extends somewhat the series of type forms presented under that head, and lays the foundation for a knowledge of animal development. It is largely given, however, to the study of the invertebrate animals commonly found in Illinois, with special attention to their distribution, their habits, and their life histories, and to the adaptive structures which exhibit or determine their relations to their environment. Field work and its methods are included in the course, and the organization of its instruction is such as to permit some diversity in the work of different students. *II.; lecture, M., W., F.; 2; laboratory, 7 periods; arrange time; (5).* Assistant Professor Smith and Mr. McClellan.

Required: Art and Design 1; an entrance credit in chemistry or Chemistry 1; Zoölogy 10.

2. Vertebrate Zoölogy and Comparative Anatomy.—In the laboratory work of this course principal attention will be given to the anatomy of Necturus and to anatomical and systematic studies of fishes, birds, and mammals, especial reference being had to the anatomy of man. The more difficult parts of laboratory technology

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will be given in this course, which will also contain lectures on the general theory of organic development as illustrated by the doctrine of the descent of man. *I.; lecture, M., W., F.; 4; laboratory, 7 periods; arrange time; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

Required: The same as for Zoölogy 1.

3. VERTEBRATE EMBRYOLOGY.—This course begins with a study of the sex cells and a discussion of theories of heredity, followed by a consideration of the early stages in the development of the egg. The formation of the vertebrate body is then studied in the amphibian, the chick, and the pig. Instruction is given in the preparation of embryological material and in graphic reconstruction from serial sections. *II.; 3, 4; (5).* Mr. MCCLELLAN.

Required: Zoölogy 2. [Not offered in 1902-03.]

4. ADVANCED ZOÖLOGY.—Under this head is offered an opportunity for individual advanced work for one or two semesters along lines to be selected in consultation with the instructor. It may include field and systematic zoölogy, or a laboratory course in mammalian anatomy, but is otherwise essentially a research course for students specializing in zoölogy. One semester of this course will be required of all intending to graduate with a zoölogical thesis. If five or more students offer for the same work under this head they will receive class instruction, but otherwise students in this course will commonly be assembled as a class only for seminary work. From those taking this course selection of student assistants for the zoölogical laboratories will commonly be made, credit being given on the course for such assistance according to the recommendation of the head of the department, subject to the approval of the college faculty. *I., II.; arrange time; (5).* Assistant Professor SMITH.

Required: Zoölogy 1, 2.

5. ELEMENTARY ENTOMOLOGY.—(See Entomology 1.)

6. GENERAL ENTOMOLOGY.—(See Entomology 2, 3.)

7. PRACTICAL ENTOMOLOGY.—(See Entomology 4.)

8. THESIS INVESTIGATION.—Candidates for graduation in the College of Science who select a zoölogical subject as a thesis are required to spend three hours a day during their senior year in making a detailed investigation of the selected topics. While this work is done under the general supervision of an instructor, it is in its methods and responsibilities essentially original work. *I., II.; arrange time; (5).* Professor FORBES and Assistant Professor SMITH.

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Required: Two years in zoölogical courses, including one semester of Zoölogy 4.

9. TEACHERS' COURSE IN ZOÖLOGY.—This course is offered especially to prospective teachers of zoölogy in high schools or colleges. It will include a review of such parts of their earlier work as are most closely related to their prospective teaching, the subject being studied now from the standpoint of the teacher rather than that of the student merely. Additional work in the field, laboratory, and library will be given to enlarge the scope of the student's knowledge and to give practice in methods most likely to be useful to him. The management of excursions, the collection and preparation of material, the selection, assignment, and management of subjects for individual study, and the determination, and study of the animal forms of a restricted locality, are examples of this work. High school course of zoölogical study will be collected, compared, and criticised, and methods of management and instruction in secondary schools will be compared and discussed with reference to general pedagogical theory and to the special ends of the teacher of zoölogy. Those taking the lectures only will receive a three-hour credit; those taking the field and laboratory work without the lectures will receive a two-hour credit. *II.; 6, 7; (5).* Professor FORBES.

Required: Zoölogy 1; also Zoölogy 2, or Entomology 2, or Entomology 3.

10. INTRODUCTORY ZOÖLOGY.—This is a field, laboratory, and lecture course, mainly on the morphology, physiology, and oecology of type forms, and on the more obvious features of cytology and development. The work is so directed as to lead to an acquaintance with the simpler generalizations of zoölogical theory, and is intended especially as a preparation for the more extensive and thorough work of courses 1 and 2. Students who present an entrance credit in zoölogy or biology may take as a fractional course those parts of this work not covered in their previous study. *I.; 1, 2; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

11. GENERAL ZOÖLOGY.—This course is especially designed for students in the College of Literature and Arts who do not intend taking more than one year's work in zoölogy. The chief aim will be to give such facts and generalizations of zoölogical and biological science as are of the largest general interest and concern, and can be made intelligible in a brief course. The laboratory work will be planned to serve as a partial basis for lectures and reference reading on facts and theories of organic evolution with the related topics of

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variation and heredity. This course is not adapted to serve as an introductory course in zoölogy nor as a preparation for teaching. *I., II.; M., W.; 6, 7; (2).* Assistant Professor SMITH and Mr. MCCLELLAN.

Required: At least one year of University work.

12. STATISTICAL ZOÖLOGY.—This course is offered for students taking Mathematics 26. It includes lectures and reference reading on the application of statistical methods to biological problems. The history of the development of this mode of biological investigation, the nature of the problems to which it is applicable and some of the results already obtained in the study of variations, heredity, distribution and phylogeny will be among the topics considered. Students taking this course, together with Mathematics 26b, will ordinarily use for the problems of the latter course, zoölogical data that have been obtained either by their own observations or from other sources. If desired the combined credits of this course and Mathematics 26 may be counted as 5 credits either in zoölogy or in mathematics. *II.; F.; 7; (1 or 5).* Assistant Professor SMITH.

Required: Mathematics 2, 4, 6, 8a, and at least ten hours of University work in Zoölogy or in Zoölogy and Entomology.

COURSES FOR GRADUATES

101. PLANKTON ZOÖLOGY.—Under this head instruction and practice will be given in modern methods of studying minute forms of aquatic life with the aid of a plankton apparatus and laboratory equipment. This work will include both a qualitative and a quantitative investigation of the minute zoölogical contents of a selected body of water, carried on systematically through a considerable period, and the generalization of the results of such study by the methods peculiar to the planktologist.

102. FRESH-WATER ICHTHYOLOGY.—The large collections of fishes belonging to the University and the State Laboratory of Natural History, together with the ichthyological library of the latter, will be open to students who wish to become acquainted with the ichthyology of a fresh-water situation. Both qualitative and quantitative studies of the fishes of a selected body of water will be made, and papers will be written presenting the results of personal studies in this field.

103. FRESH-WATER AND TERRESTRIAL ANNELIDS.—This is an ap-

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plication of the methods of the zoölogical laboratory to the study of the annelid worms of the land and the inland waters of North America. The description of genera and species, practice in drawing for publication, and experimental work on the physiology and oecology of selected forms will be included in this course.

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DEGREES

BACHELORS' DEGREES

The usual bachelors' degrees are conferred upon those who satisfactorily complete the courses of study described under the different colleges and schools. A candidate for a bachelor's degree must pass in the subjects marked *prescribed* in his chosen course, and must conform to the directions given in connection with that course in regard to electives. In the College of Literature and Arts, of Science, and of Agriculture, credit for 130 hours is required for graduation. In the College of Engineering, in the College of Law, and in the Schools of Music and Library Science the candidate must complete the course of study as laid down. The number of hours required includes five in military drill and tactics, and two in physical training, for men, and three in physical training for women. Men excused from the military requirements, and women who do not take courses in physical training, must elect in lieu thereof an equivalent number of hours in other subjects.

In all cases in which a thesis is required,* the subject must be announced not later than the first Monday in November, and the completed thesis must be submitted to the dean of the proper college by June 1st. The work must be done under the direction of the professor in whose department the subject naturally belongs, and must be in the line of the course of study for which a degree is expected. The thesis must be presented upon regulation paper, and will be deposited in the library of the University.

1. The degree of Bachelor of Arts is conferred on those

*See requirements for graduation in the different colleges.

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who complete a course in the College of Literature and Arts, or of Science.

2. The degree of Bachelor of Science is conferred on those who complete a course in the College of Engineering, or of Agriculture. This degree may be conferred on a graduate of the College of Science on recommendation of the Faculty, as announced on p. 108. The name of the course is inserted in the diploma.

3. The degree of Bachelor of Laws is conferred on those who complete the course in the College of Law.

4. The degree of Doctor of Medicine is conferred on those who complete the course in the College of Medicine.

5. The degree of Bachelor of Library Science is conferred on those who complete the course in the School of Library Science.

6. The degree of Bachelor of Music is conferred on those who complete one of the courses in the School of Music.

7. The degree of Graduate in Pharmacy is conferred on those who complete the course in the School of Pharmacy.

8. The degree of Doctor of Dental Surgery is conferred on those who complete the course in the School of Dentistry.

ADVANCED DEGREES

No degrees are given for study *in absentia,* except that graduates of this University, who become members of the Graduate School and reside elsewhere, may receive a second, or master's, degree, upon the completion of their courses of study within not less than three years of the date of registration. Advanced degrees are conferred by the Trustees of the University only upon recommendation of the Senate, based upon information furnished by the Council of Administration.

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SECOND DEGREES

The second degrees conferred by this University are as follows:

Master of Arts, after Bachelor of Arts.

Master of Science, after Bachelor of Science in courses in the colleges of Agriculture and Science.

Master of Architecture, after Bachelor of Science in courses in Architecture and Architectural Engineering.

Civil Engineer, after Bachelor of Science in the course in Civil Engineering.

Electrical Engineer, after Bachelor of Science in the course in Electrical Engineering.

Mechanical Engineer, after Bachelor of Science in the course in Mechanical Engineering.

Pharmaceutical Chemist, after Graduate in Pharmacy.

Graduates of other colleges and universities which have equivalent requirements for baccalaureate degrees may be given second degrees determined in kind by comparison with the usage described above.

All candidates for second degrees are required to register in the Graduate School; to conform to the conditions outlined under "Admission," "Registration," and "Examinations" (pp. 65 and 66); to pursue an approved course of study for one academic year in residence, or, in the case of graduates of this University, for three years *in absentia;* and to pass satisfactory examinations upon all the studies of the approved course.

Each candidate for a second degree must present an acceptable thesis in the line of his major subject of study. The subject of this thesis must be announced to the Dean of the Graduate School not later than the first Monday in November of the academic year in which the course is to be completed. The completed thesis, upon regulation paper, must be presented, with the certified approval of the professor in charge, to the Council of Administration not later than June 1st.

The period of required study begins from the date of registration in the Graduate School.

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DOCTOR'S DEGREE

The degree of Doctor of Philosophy may be conferred upon any member of the Graduate School of not less than three years' standing who shall have reached high attainments in scholarship, including a sufficient knowledge of the Latin, French, and German languages to serve the purposes of research in his principal specialty, who shall have shown marked ability in some line of literary or scientific investigation, and shall have presented a thesis giving clear indications of such scholarship and of such power of research. At least the first two, or the last one, of the three years of study must be in residence at the University, and the entire course of study must be in accordance with the regulations of the Graduate School.

The time and study required for a master's degree may be included in the three years required, but approval of a course of study for a doctor's degree must be upon the condition that the candidate is prepared through his baccalaureate work, or otherwise, to enter at once upon advanced studies in the line of his major subject, and that work on this major subject be continued through the three years.

The final examination of a candidate for the doctor's degree is conducted by a committee consisting of the head of the department under which the major subject has been pursued, as chairman, and of not less than two additional members of the Senate of the University, appointed for the purpose by the Council of Administration. This examination covers the subjects of the course approved for the degree, but is specially searching upon that on which the major work has been done. This examination occurs in the week preceding that upon which commencement day occurs.

Each candidate for a doctor's degree must announce to the Dean of the Graduate School a thesis subject not later than the first Monday in November of the academic year at the close of which the award of the degree is expected. A fair copy of the thesis must be submitted, with a certified

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approval of the committee on examinations, to the Council of Administration not later than the first day of June. If the thesis is approved by the Council the candidate must have it printed and must deposit not less than one hundred copies with the librarian of the University.

FELLOWSHIPS.

The Trustees of the University have established eight fellowships, each with a stipend of three hundred dollars, payable in ten monthly installments.

The rules governing appointments to these fellowships are as follows:

1. The purpose of these fellowships shall be to promote advanced scholarship and original research in the University.

2. The fellowships shall be open to graduates of this and similar institutions. Those who are to complete an under-graduate course previous to the academic year for which appointments are made shall be eligible, with others, as candidates.

3. Nominations to fellowships, accompanied by assignments to special departments of the University for instructional work, shall be made by the Council of Administration to the Trustees of the University, upon applications received by the President of the University each year not later than the first day of February. These nominations shall be made at a meeting of the Council called for that purpose within the month of February. The appointments by the Trustees are made at their regular meeting in March, and shall take effect the first day of the following September. Vacancies may be filled by similar nominations and appointments at other times.

4. Nominations to fellowships shall be made upon the grounds of worthiness of character, scholastic attainments, and promise of success in the principal line of study or research to which the candidate proposes to devote himself. Consideration shall also be given to the probable value or

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usefulness of the services of the candidate as an assistant in instruction, but this shall not be deemed the primary object of the appointment. Other things being equal, preference shall be given to those graduates of this University who have pursued a specialized course.*

5. Candidates must present, with their applications, full information concerning themselves and their qualifications for advanced study and research work, including any written or printed essays or results of investigation, and must name the subject in which they wish to do their major work.

6. Fellowships shall be good for one year. Appointments may not usually be renewed to the same persons, and in no case for more than one additional year; but an appointment as *honorary fellow*, without stipend, may be made as specified for paid fellowships in the case of anyone who has held a regular fellowship and has shown distinguished merit in his work.

7. Fellows shall be constituted members of the Graduate School, shall have all of the privileges and bear all of the responsibilities of such membership. Each regular fellow may be called upon to render service in instruction throughout the year in the department in which his major subject lies, equal to one hour daily of class instruction or to two hours daily of laboratory supervision. This service will receive such credit as the Council of Administration may determine in each case. Blank forms for application may be obtained by addressing the Registrar.

SCHOLARSHIPS.

STATE

A law passed by the General Assembly of the State of Illinois at the session of 1895 provides that there may be awarded annually to each county of the state one state

* See pp. 73, 109. All members of the College of Engineering and of Agriculture, of the chemical and mathematical groups in the College of Science, of the College of Law, and of the Schools of Library Science and Music, are considered as pursuing specialized courses.

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scholarship and one additional scholarship for each senatorial district in excess of one in any county. The holder thereof must be a resident of the senatorial district to which he is accredited, and is entitled to free tuition in other than the preparatory and professional schools of the University.

A competitive examination under the direction of the Superintendent of Public Instruction shall be held at the county courthouse in each county of the state upon the first Saturday of June in each and every year by the county superintendent of schools upon such branches of study as said Superintendent of Public Instruction and the President of said University may deem best.

Questions for such examinations shall be prepared and furnished by the President of the University to the Superintendent of Public Instruction, who shall attend to the printing and distribution thereof to the several county superintendents of schools prior to such examinations.

The law also provides that in case the scholarship in any county is not claimed by a resident of that county, the Superintendent of Public Instruction may fill the same by appointing some candidate first entitled to a vacancy in some other county.

Candidates to be eligible to a state scholarship must be at least sixteen years of age, and must have been residents of their respective counties for the year preceding the examination.

A student holding a state scholarship who shall make it appear to the satisfaction of the President of the University that he requires leave of absence for the purpose of earning funds to defray his expenses while in attendance, may, in the discretion of the President, be granted such a leave of absence, and may be allowed a period not exceeding six years from the commencement thereof for the completion of his course at said University.

The examinations will be held June 7, 1902, and June 6, 1903.

For particulars about them write to Hon. Alfred Bayliss,

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Superintendent of Public Instruction, Springfield, or to W. L. Pillsbury, Registrar, Urbana.

Any person, whether a candidate for a scholarship or not, may be examined for admission to the University at these state scholarship examinations.

SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE

The University offers every year to each county in the state, except Cook and Lake, and to each of the first ten congressional districts, two scholarships for students of the College of Agriculture—one for students of Agriculture and one for students of Household Science.

Appointments will be made by the Trustees of the University to scholarships in Agriculture upon the recommendation of the executive committee of the Illinois Farmers' Institute, and to scholarships in Household Science upon the recommendation of the County Domestic Science Associations. Persons under 18 years of age and those who have already attended the University are not eligible. Acceptable candidates, residents of counties or districts for which appointments have been made, may be assigned to counties or districts not yet represented.

The scholarships are good for two years and relieve the holders from the payment of the matriculation fee, $10.00, and the incidental fee, $24.00 a year. The term of a scholarship may be extended four years, if, before it expires, the holder satisfies in full the requirements for admission to the freshman class of the College of Agriculture.

For further information address W. L. Pillsbury, Registrar, Urbana.

MILITARY

Students who have gained 3 hours in class room military instruction and 4 in drill practice, are eligible for appointment as commissioned officers of the regiment or battery. Those attaining this rank may be awarded special scholar-

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ships, good for one year, and equal in value to the University term fees for the same length of time.

PRIZES

THE HAZLETON PRIZE MEDAL

Capt. W. C. Hazleton provided in 1890 a medal, of beautiful and artistic design, which is to be awarded, at a competitive drill to be held near the close of the year, to the best drilled student. Each competitor must have been in attendance at the University at least sixteen weeks of the current college year; must not have had more than four unexcused absences from drill; and must present himself for competition in full uniform.

The award is made for excellence in these particulars:

1. Erectness of carriage, military appearance, and neatness.
2. Execution of the school of the soldier, without arms.
3. Manual of arms, with and without numbers.

The successful competitor will receive a certificate setting forth the facts, and may wear the medal until the 15th day of May following, when it will be returned for the next competition.

INTERSCHOLASTIC ORATORICAL CONTEST

A medal of the value of twenty dollars and two of the value of ten dollars each, are offered annually by the University to the high schools of the state for the best oration delivered in a competitive contest between their representatives. This contest takes place in the spring at the time of the interscholastic athletic meet.

THE BRYAN PRIZE

In 1898 Mr. William Jennings Bryan gave to the University two hundred and fifty dollars. From the interest of this sum a prize of twenty-five dollars is biennially offered for the best essay on the science of government. The

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contest is open to all matriculated undergraduate students. The essays may not be less than three thousand, nor more than six thousand, words in length, and must be left at the President's office not later than the second Wednesday in May. The prize was offered for the first time in 1901. It is suggested that for 1903 the essays be upon "The Reasonable Limitations of the Police Power."

BENEFICIARY AID

EDWARD SNYDER DEPARTMENT OF STUDENTS' AID

In 1899 Professor Edward Snyder, Professor of the German language and literature, *emeritus*, gave to the University the sum of $12,000, to be loaned to worthy students to enable them to finish their courses in the University.

This fund is, by action of the Trustees, available to junior, senior, and graduate students who need aid to remain and complete their work. The minimum loan made will be fifty dollars ($50), and the maximum will be one hundred and fifty dollars ($150) to a junior, and two hundred dollars ($200) to a senior or graduate, student. Notes of hand are taken for the amount of the loans, with 5 per cent. interest. The maximum time limit is three years for juniors, and two years from the ensuing thirtieth day of July for seniors and graduates.

Applications for loans will be passed upon by the Council of Administration and approved by the Finance Committee of the Board of Trustees of the University.

TO WHOM LOANS MAY BE MADE

Loans will be made to matriculated students only who have attained at least the rank of full juniors, who have been in residence at this University at least one year, who are at the time students in residence at this University, and who have declared their intention to graduate.

In recommending loans preference shall be given to those students who are farthest along in their University work and who have shown themselves most assiduous and

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successful in their studies, and who have shown habitual economy in life.

No distinction shall be made among students on account of sex or course of study.

A loan will not be recommended for any student who is believed to have been financially or morally delinquent in any respect.

Information given by applicants will be considered confidential on the part of the University authorities.

Applications for loans must be addressed to

THE PRESIDENT OF THE UNIVERSITY,
Urbana, Illinois.

CLASS OF 1895 LOAN FUND

This is a fund of $250.00, established by the class of 1895, to be loaned to needy and deserving students. According to the conditions of the gift, one-fifth of the amount is to be loaned annually, and is open to members of the freshman class only. No person may receive the benefit of the fund more than four years. The loan bears interest at the legal rate from the time the recipient leaves the University, and is due, one-half in five years, and one-half in six years, after matriculation. The management of the fund is in charge of the Council of Administration.

SOCIETIES AND CLUBS

LITERARY SOCIETIES

The ADELPHIC and PHILOMATHEAN societies for men, and the ALETHENAI for women, occupy large halls, which the members have appropriately furnished and decorated. Meetings are held Friday evenings throughout term time.

THE CHRISTIAN ASSOCIATIONS

YOUNG MEN'S AND YOUNG WOMEN'S CHRISTIAN ASSOCIATIONS

The Young Men's and Young Women's Christian Associations have come to occupy a prominent place in the Uni-

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versity life. Both are affiliated with the World's Student Christian Federation, which is the largest student organization in existence.

Three hundred and fifty men now belong to the Young Men's, and two hundred and sixty women to the Young Women's, Associations. Each association employs for full time a general secretary.

The Association House furnishes free to all students, reading room, game room, library, parlors, piano, magazines and papers, correspondence tables and telephone—a college home.

Religious meetings for men are held on Sunday mornings; for women on Thursday afternoons; and for both men and women on Monday evenings. There are frequent meetings for the promotion of social intercourse and good fellowship.

Courses in systematic Bible study and in modern missions are offered. During the year two hundred and ninety men and one hundred and ten women have enrolled in these courses. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association House. Representatives of the Associations meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The employment bureau helps to find work.

A copy of the Students' Hand-Book, containing a map of the cities, and giving information about Champaign and Urbana, the University, and the various college organizations and activities, will be sent free to prospective students.

For further information address the General Secretary of either Association.

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CLUBS AUXILIARY TO COURSES OF STUDY

AGRICULTURAL CLUB

This club meets weekly. It is devoted to the discussion of topics of theoretical and practical interest to students of agriculture. All students connected with the University are eligible to membership.

ARCHITECTS' CLUB

This club meets once in two weeks for the consideration of current topics of architectural interest and subjects connected with the study of architectural history. All students pursuing architectural studies are eligible to membership. This club is a member of the Architectural League of America, and contributes to its annual exhibition in the principal cities of the United States.

CIVIL ENGINEERING CLUB

This club meets the second and fourth Saturday evenings of each month for the reading and discussion of papers relating to civil engineering. All students pursuing the civil engineering course may become members.

THE ENGLISH CLUB

The English Club is composed of members of the Faculty, and of students who have done especially good work in English. The work of the club is confined to the study of recent writers of fiction and of poetry. The membership is limited to thirty. Meetings are held on the second Monday of each month.

FRENCH CLUB

Le Cercle Français includes students who have had at least one year's work in French. The club meets once a month throughout the year. Its proceedings are conducted in French, the object being to supplement the work of the class room by the practical handling and understanding of the language.

LIBRARY CLUB

The instructors and students of the Library School have organized a Library Club. Any member of the staff of the

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University library, of the Champaign public library, or of the Urbana public library, or any student who is registered for the Library School may become an active member. Trustees of the three libraries before mentioned are considered honorary members. Any others interested in library progress may become associate members.

Meetings are held once in three weeks during the college year. The first and last meetings of the year are of a social nature. The intervening meetings are devoted to topics of literary or technical library interest.

MECHANICAL AND ELECTRICAL ENGINEERING SOCIETY

This club meets on the second and fourth Friday evenings of each month. All students pursuing mechanical and electrical engineering studies are eligible to membership. Papers relating to subjects of interest to members are presented and discussed at each meeting.

MUSICAL CLUBS

These are described under the School of Music (p. 147).

THE NATURAL HISTORY SOCIETY

This society is composed of instructors and students interested in the natural sciences. It conducts field excursions and exhibitions of objects of natural history, and provides occasional lectures on science subjects of general interest.

THE SCANDINAVIAN CLUB

The Scandinavian Club (Skandinaviske Samund) was organized in the spring of 1900 for the purpose of bringing together all men students having a knowledge of at least one of the Scandinavian languages. Meetings are held during the academic year, at which subjects connected with the northern countries, especially with their literatures, are discussed.

ZOOLOGICAL CLUB

The University Zoological Club is composed of advanced students and instructors in the zoological and physiological departments, together with such other biological instructors

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and advanced students as are interested in its subjects. Its sessions are devoted to the presentation and discussion of abstracts of recent biological literature and of the results of investigation by the members of the club. It meets weekly in Natural History Hall.

MILITARY SCIENCE

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of officers of the line. A full supply of arms and ammunition is furnished by the War Department, including 500 cadet rifles and accoutrements and two field pieces of artillery.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week until he has gained credit for 4 semester hours. He is also required to study Drill Regulations for Infantry and to recite upon the same once a week until he gains credit for one semester hour. The practical instruction begins as soon as possible after he enters the University. A preparatory student carrying no freshman studies and not expecting to matriculate during the year is not permitted to drill. The standings in study and drill are placed on record, with other class credits; one semester of recitations and drill count two hours, and the three remaining semesters of drill three hours, and are requisite to graduation in every University course.

Appointments in the regiment are made on nomination by the officer in charge and confirmation by the Council.

The regiment (two battalions of four companies each) is composed mainly of the members of the freshman and sophomore classes. The non-commissioned officers are selected from the sophomore class, the lieutenants from the junior class, and the field officers and captains from the senior class.

A special military scholarship, good for one year, is open to each student who attains the grade of a commissioned

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officer, the value of which is paid the holder at the close of the year.

An artillery detachment is organized mainly from the second year, or sophomore, class, which receives practical instruction twice each week during the college year.

Toward the close of the year a committee appointed by the Council examines candidates for nomination to the Governor of the state to receive commissions as brevet captains in the state militia. Candidates must be members of the senior class in full standing at the time of this examination; must have completed the course of military studies; must have served four semesters as commissioned officers, and must be approved by the Council as having good reputations as scholars, officers, and gentlemen.

The Trustees have prescribed a uniform of cadet gray, coat trimmed with black mohair braid, trousers with black cloth stripe, cut after the U. S. army pattern.

In order that all uniforms worn at this University may be, in quality, make, and finish in strict accordance with the specifications adopted by the Board of Trustees, all students enrolled in the military department will be required to obtain them from that firm only that may, for the time being, be under agreement and bond with the Trustees to furnish said uniforms at a stated price and of standard quality.

The University Military Band is composed of students, and every full term of service therein is counted as one term of drill.

PHYSICAL TRAINING

FOR MEN

The main object of the work of this department is to preserve and to improve the bodily health of the students by careful physical examinations, and rational prescriptions of exercises; by correcting physical deformities and imperfect development; by teaching proper methods of living; and by encouraging proper intercollegiate sports.

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Each student is required to undergo a physical examination so that a correct knowledge of his bodily condition may be obtained, and proper exercises prescribed. Regular classes are formed for drill on the various gymnasium appliances. Lectures are given upon personal hygiene.

All competitive athletic games are under the direct supervision of the director of physical training, and his examination is required to show that membership on any team will not cause injury, but will tend to improve the physical condition. No student whose class work is unsatisfactory will be allowed to play on a University team.

Two courses are offered students who wish to prepare as instructors of physical training or coaches of athletic teams.

FOR WOMEN

The general health and development of the young women are carefully looked after by the director of the women's gymnasium. Each student comes under the personal observation of the director and is given a physical examination, in order that her physical condition may be known, suitable exercise prescribed, and advice given. The system adopted is designed to meet the special wants of each student. Systematic class drill is given in Swedish, American and Delsarte gymnastics, including free and light exercises, dumbbells, clubs, wands, marching, fancy-steps, the May-pole games, basket ball, military drill, and, if advisable, exercise on the various pieces of apparatus.

The grounds of the University afford ample means for out-door recreation. There are four tennis courts, golf links, basket ball court, and field for other athletic sports.

Every freshman, not physically disqualified, must take the *prescribed* work. Students may elect enough to make five hours' credit, including that for prescribed work.

The women's gymnasium occupies very attractive quarters in Natural History Hall, and is well equipped. The gymnasium is open for exercise, at certain hours, under

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suitable restrictions, to those who are not enrolled in classes. The uniform consists of navy blue serge blouse and divided skirt, and black slippers.

HOSPITAL ASSOCIATION

The Hospital Association is an organization of students to provide a fund for hospital care in case of sickness. The members of the association pay a fee of fifty cents each semester and the fund thus raised is used to pay the hospital expenses of members who may need such care. The fund is under the control of a committee of the Faculty, and during the last three years the association has rendered valuable aid to a considerable number of members. Students are strongly advised to join the association.

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EXPENSES

BOARD

The University does not furnish board, but there is a dining hall in the basement of University Hall, and under University supervision, where good meals may be obtained at reasonable rates. There are, also, a large number of suitable private places in Urbana and Champaign, within walking distance of the University, and easily accessible by electric railway, where students can obtain table board and rooms. There are several students' clubs at which the cost of meals is about two dollars and seventy-five cents a week.

The Business Manager and the Young Men's and Young Women's Christian Associations of the University will aid new students in procuring rooms and boarding places.

FEES

Technological, Scientific, Agricultural, and Literary Departments

MATRICULATION FEE. Each student not holding a scholarship, upon satisfying the requirements for admission to the University, pays the matriculation fee of..... $10 00

THE DIPLOMA FEE, payable before graduation, is..... 5 00

THE INCIDENTAL FEE. All students, except those in the Graduate School, not taking studies which do not count for a second degree, and except those holding scholarships, pay, each semester, an incidental fee of..... 12 00

TUITION FEE. Students "conditioned" on entrance requirements, "special" students (see p. 64), except special students holding scholarships, pay, each semester, a tuition fee of 7 50

LABORATORY FEES AND DEPOSITS. Each student working in laboratories, or in the drafting or engineering classes, is required to make a deposit varying from 50 cents to $10.00, to pay for chemicals and apparatus used, and for any breakages or damages.

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Music Department

Students who are residents of Illinois, not including members of the Graduate School, will, if they are matriculated, pay for instruction in music of college grade the "incidental" fee only.....$12 00

All other students receiving instruction in music pay special fees for instruction in music of college grade and of preparatory grade, as follows:

	College.	Preparatory.
Piano, organ, voice, or violin or other stringed instrument, two lessons a week, each semester	$32 50	$19 50
Same, one lesson a week	19 50	11 00

[If students are regularly enrolled in other departments, the fees for college music are reduced to $25.00 and $15.00; and for Preparatory music to $15.00 and $8.50, each semester.]

Special students, taking music only, may enter classes in Physical Training (see p. 265) on paying each semester .....$ 7 50

No deduction is made on account of absence in any course, except in case of protracted illness.

Students can rent pianos for practice by applying to the head of the music department.

College of Law

Students of the College of Law, upon satisfying the requirements for admission, pay the matriculation fee of.....$10 00
Tuition fee, each semester..... 25 00
Students conditioned on entrance requirements pay, each semester, an additional fee of..... 7 50

College of Medicine

Matriculation fee, paid each year.....$ 5 00
General ticket, each term..... 55 00
Laboratory deposit (for material and breakages, balance returned) 10 00
Maternity hospital fee, payable once during senior year..... 10 00

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School of Dentistry

Matriculation fee, each year	$ 5 00
General ticket, each year	100 00
Laboratory ticket, first and second years	10 00
Dissecting fee, first and second years	5 00
Final examination fee, third year	20 00

School of Pharmacy

Tuition fee, each year	$75 00
Laboratory deposit, each year	5 00

Preparatory School

All pupils in the Preparatory School pay, each semester, an "incidental" fee of	$12 00
Also a tuition fee of	7 50

ALL BILLS due the University *must be paid within ten days after the student enters classes.*

NECESSARY EXPENSES

The following are, for students attending at Urbana, estimated average annual expenses, *exclusive* of books, clothing, railroad fare, laboratory fees, if any, and small miscellaneous needs:

*Semester fees	$24 00	to	$24 00
Room rent for each student (two in room)	32 00	"	60 00
Table board in boarding houses and clubs	90 00	"	124 00
Washing	18 00	"	24 00
Total	$164 00	to	$232 00
Board and room in private houses, per week	4 50	"	6 00

CAUTION TO PARENTS—STUDENTS' FUNDS

The Business Manager will receive on deposit any funds parents may entrust to him to meet the expenses of their sons and daughters. No greater error can be committed than to send young people from home with large amounts of spending money, and without the authoritative care of some prudent friend. Half the dissipation in colleges springs from excessive allowances of money.

* Students of law and music, special students and pupils of the Preparatory School, must make needed changes in the amount given for "Semester fees."

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PREPARATORY SCHOOL

INSTRUCTORS

FRANK HAMSHER, A.B., Principal, History and Civics.
BERTHA M. PILLSBURY, A.M., English Literature and Composition.
JOHN E. MILLER, A.B., Greek and Latin.
ERNEST B. LYTLE, B.S., Mathematics.
FRANCES A. GALE, Natural Sciences.
MARGERET A. SCOTT, German and French.
WALTER C. LINDLEY, A.B., English Literature and Composition.
CLINE F. DAVIDSON, B.S., Physics and Algebra.

The Preparatory School is not a department of the University, but is a school maintained by the University, having a separate and independent existence, and a faculty and organization distinctly its own. Within the past year it has been entirely reorganized with a new and carefully selected faculty and an improved equipment. With this reorganization it is the purpose of the University to support an efficient and progressive preparatory school, with advanced methods and high ideals of scholarship, keeping in close touch with the University, and having as its primary aim the work of the college entrance requirements, it offers special advantages to those intending to enter the University. This school has no desire, however, to draw students from those towns that support good high schools. In such cases it is better for the student to attend his home school. The Preparatory School exists rather for other classes of students, those whose home schools are unable to prepare them for the University, or those who, having been denied the advantages of a high school education in their earlier years,

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now wish to prepare for college work. The student body of the Preparatory School being thus composed of young men and women of rather mature mind and serious purpose, the tone of the work and the average of scholarship is accordingly high.

ADMISSION

Candidates for admission must be at least fifteen years of age. Those twenty-one years of age may enter such classes as they are prepared for without examination. All under twenty-one years of age, except those coming from accredited schools (see p. 49) must pass a satisfactory examination in the following subjects:

1. ARITHMETIC.—A thorough knowledge is required of fundamental operations, simple and denominate numbers, the metric system of weights and measures, common and decimal fractions, practical measurements, percentage, ratio and proportion.

2. ENGLISH.—The examination is intended to test the student's vocabulary and his knowledge of grammar.

3. GEOGRAPHY.—An accurate knowledge of physical configuration, political divisions, and important centers of population, is required.

4. HISTORY.—As a foundation in this subject, a knowledge of the early settlement of North America, and of the growth and development of the United States, is required. A knowledge of the nature and operation of the forces active in American life is desired, rather than the memorization of isolated dates and names.

ENTRANCE should be made at the opening of a semester, but applicants will be admitted at other times on presenting proofs that they are prepared to pursue the selected subjects. Examinations will be held in the rooms of the school, September 10 to 13, 1902, and January 30 and 31, 1903. Examinations on these dates are free, but for special examinations at other times a fee of $3.00 may be charged.

EXAMINATIONS FOR ENTRANCE may be conducted in Illinois by county superintendents of schools in the same manner as for teachers' certificates, and their favorable reports will be accepted. First or second grade teachers'

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certificates from superintendents of Illinois will be taken for the same purpose.

ADMISSION FROM ACCREDITED SCHOOLS. On the written recommendation of their principals, students from the accredited schools of the University may be admitted without entrance examinations and credit will be allowed for all equivalent work already done. Blanks for such recommendations will be sent on application.

COURSE OF STUDY

The curriculum is limited to those subjects which must, and certain electives which may be, offered for entrance credit. A description of the work undertaken in each of the various subjects may be found on pages 53-62.

The time necessary to complete the requirements for entrance to the University is not fixed, but depends upon the ability and previous training of the student.

The course of instruction is as follows:

First Semester.—Algebra* 1; Review Algebra; Plane Geometry 1; Solid Geometry; English 1; English 3; English 5; Latin 1; Latin 3; Latin 5; Greek 1; Greek 3; German 1; German 3; French 1; French 3; Physics 1; Zoölogy; Physiology; Drawing; English History.

Second Semester.—Algebra 2; Algebra 1; Review Algebra; Plane Geometry 1; Plane Geometry 2; English 2; English 4; English 6; Latin 2; Latin 4; Latin 6; Greek 2; Greek 4; German 2; German 4; French 2; French 4; Physics 2; Botany; Physiography; Drawing; American History and Civics.

REGULATIONS

Reports regarding all students are sent to parents at the close of each semester.

The calendar of the Preparatory School is the same as that of the University.

For information about fees and expenses, see page 303.

For special information with regard to the Preparatory School, address Frank Hamsher, Principal of Preparatory School, Urbana, Ill.

* The figure following a subject indicates the number of the semesters the subject has been pursued; thus, French 3 means the third semester of French.

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LIST OF STUDENTS.

TECHNOLOGICAL, SCIENTIFIC, AGRICULTURAL, AND LITERARY DEPARTMENTS

GRADUATE SCHOOL

Alvord, Clarence Walworth, A.B., *(Williams Coll.)*, 1891, *Urbana*, History.

*Barber, William Davis, B.S., 1892, *Chicago*, Civil Engineering.

*Barclay, Thomas, B.S., 1891, *Aurora*, Smelting and Refining Processes of the United States; Geology of Ore Deposits.

Bell, Arthur Timothy, A.B., 1901, *Azotus*, Mathematics.

Bonser, Frederick Gordon, B.S., 1901, *Pana*, Psychology.

*Brown, Walter Burroughs, B.S., 1897, *Buffalo, N. Y.*, Chemistry.

*Clarke, Edwin Besançon, B.S., 1891, *Chicago*, Architecture.

Coar, Henry Livingston, A.M., *(Harvard Univ.)*, 1894, *Urbana*, Mathematics.

Dehn, William Maurice, A.M., *(Hope Coll.)*, 1896, *Urbana*, Chemistry.

*Dewey, James Ansel, M.S., 1898, *Charleston*, Bacteriology.

East, Edward Murray, B.S., 1901, *Champaign*, Agricultural Chemistry.

Emmett, Arthur Donaldson, B.S., 1901, *Urbana*, Chemistry.

*Fischer, Louis Engelmann, B.S., 1898, *Mascoutah*, Municipal and Sanitary Engineering.

Fox, Fred Gates, A.B., 1898, *Peru*, English.

Fox, Harry Bert, B.S., 1900, *Urbana*, Geology and Physiography of a section around Urbana and Champaign.

Fraser, Wilber John, B.S., 1893, *Champaign*, Agriculture.

*Gagnier, Edward Duscharm, B.S., *(Mich. Agr'l Coll.)*, 1899, *Champaign*, Mechanical Engineering.

Gleason, Harry Allan, B.S., 1901, *Champaign*, Systematic and Geographical Botany.

* In absentia, see p. 138.

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Gridley, Harry Norman, A.B., 1901, *Virginia,* History.
*Grimes, George Lyman, B.S., 1897, *Ann Arbor, Mich.,* Mechanical Engineering.
Hall, Arthur Raymond, LL.B., 1901, *East Lynn,* English and Rhetoric.
Harper, Merritt, B.S., *(Ohio State Univ.),* 1901, *Grove City, Ohio,* Animal Husbandry.
*Hoppin, Charles Albert, B.S., 1901, *Milwaukee, Wis.,* Mechanical Engineering.
Horner, Harlan Hoyt, A.B., 1901, *Urbana,* English Literature.
*Hughes, Clarence Wilbert, A.B., 1900, *Mattoon,* Economics and History.
Kreikenbaum, Adolph, B.S., 1901, *Urbana,* Chemistry.
Large, Thomas, A.B., *(Indiana Univ.),* 1897, *Ottawa,* Icthyology.
*Laugman, John Oscar, B.S., 1900, *Champaign,* Botany.
*Layton, Katherine Alberta, A.B., 1901, *Canton,* German.
*Lee, Julian Liechaski, B.S., 1900, *Memphis, Tenn.,* Mechanical Engineering.
Lytle Ernest Barnes, B.S., 1901, *Urbana,* Mathematics.
*Martin, John Madison, A.B., 1896, *Oak Park,* Pedagogy.
*Mayall, Edwin Lyman, B.S., 1900, *Peoria,* Mechanical Engineering
Miller, John Ezra, A.B., *(Univ. of Mich.),* 1894, *Urbana,* Latin.
Mojonnier, Timothy, B.S., 1901, *Urbana,* Chemistry.
*O'Hair, Elizabeth Edna, A.B., 1901, *Urbana,* Latin Prose of the Empire.
*Otwell, Allen Meade, M.S., 1901, *Plainview,* Physics.
*Parr, John Louis, B.S., 1897, *Peoria,* Architecture.
*Phelps, Albert Charles, B.S., 1894, *Ithaca, N. Y.,* Architecture.
Pillsbury, Bertha Marion, A.M., *(Radcliffe Coll.),* 1898, *Urbana,* English.
Ponzer, Ernest William, B.S., 1900, *Champaign,* Mathematics.
Pooley, William Vipond, A.B., 1898, *Galena,* History.
*Randall, Dwight T, B.S., 1897, *Urbana,* Mechanical Engineering.
Richardson, Robert Earl, A.B., 1901, *Shipman,* Plankton Zoölogy.
*Richart, Frederick William, B.S., 1891, *Carterville,* Mechanical Engineering.
*Rolfe, Martha Deette, B.S., 1900, *Champaign,* Physiography of Illinois.
Ross, Luther Sherman, M.S., 1890, *Des Moines, Ia.,* Biology of Subterranean Crustaceans.

* In absentia, see p. 138.

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Rounds, Charles Ralph, Ph.B., (*Univ. of Wis.*), 1901, *Urbana*, English Literature.

*Salisbury, Herbert Spencer, B.S., (*Carthage Coll.*), 1899, *Burnside*, Geology.

Sammis, John Langley, M.S., 1899, *Champaign*, Chemistry.

*Sayers, William Wesley, B.S., 1897; *Washington, D. C.*, Mechanical Engineering.

Schroeder, Curt August, B.S., 1901, *Urbana*, Chemistry.

Schulz, William Frederick, E.E., 1900, *Baltimore, Md.*, Electrical Engineering.

Scott, Frank William, A.B., 1901, *Champaign*, English.

*Seely, Garrett Teller, B.S., 1899, *Oswego*, Civil Engineering.

Shamel, Archibald Dixon, B.S., 1898, *Urbana*, Agricultural Physics.

*Smith, George Russell, B.S., 1900, *Urbana*, Mechanical Engineering.

Smith, Percy Almerin, B.S., 1901, *Urbana*, Mathematics.

*Soverhill, Harvey Allen, B.S., 1900, *Beloit, Wis.*, Mechanical Engineering.

Stanley, Otis Orion, B.S., 1901, *Champaign*, Physiology.

*Strehlow, Oscar Emil, B.S., 1896, *Tuscaloosa, Ala.*, Civil Engineering.

*Sweney, Don, B.S., 1896, *Galesburg*, Mechanical Engineering.

*Tower, Willis Eugene, B.S., 1894, *Chana*, Physics.

*Tull, Effie May, A.B., 1901, *Farmer City*, Latin.

Waters, Willard Otis, A.B., (*Benzonia Coll.*), 1896; B.L.S., 1900, *Champaign*, German.

*Webster, William W, B.S., 1899, *Urbana*, Mechanical Engineering.

*Welles, Winthrop Selden, B.S., 1901, *Byron*, Botany.

*Whitmeyer, Mark Halbert, B.S., 1899, *Danville*, Architecture.

*Williamson, Albert St. John, B.S., 1898, *Milwaukee, Wis.*, Mechanical Engineering.

Williams Winifred Sue, A.B., 1901, *Newman*, German.

*Willis, Clifford, B.S., 1900, *Urbana*, Entomology.

*Wood, Harvey Edgerton, A.B., 1900, *Joliet*, Economics.

*Woolsey, Lulu Catherine, A.B., 1899, *Oregon*, Economics.

*Zimmerman, Walter Howard, B.S., 1897, *Milwaukee, Wis.*, Mechanical Engineering.

* In absentia, see p. 138.

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SENIORS

[In the list which follows "L. & A." stands for Coll. of Literature and Arts; "S." for Coll. of Science.]

Abbott, Ruth,	*Chicago,*	Library, L. and A.
Ahrens, Anna Wilhelmina,	*Champaign,*	General, L. and A.
Alspach, Fred Albert,	*Mt. Pulaski,*	Civil Engineering.
Arnold, Lillian Belle,	*Bloomington,*	Library.
Bader, Will John,	*Quincy,*	Chemistry.
Baker, Adaline Maitland,	*Evanston,*	Library.
Barackman, Guy Bernard,	*Streator,*	Civil Engineering.
Barr, John,	*Urbana,*	Civil Engineering.
Bassett, Herbert,	*Yorkville,*	General Science.
Bates, John Schuyler,	*Monmouth,*	Civil Engineering.
Bean, Clarence Herbert,	*Rock Falls,*	Chem. and Eng'g.
Beebe, Florence Jennie,	*Blunt, S. Dak.,*	General, L. and A.
Bennett, William Lee,	*Urbana,*	Classical.
Boggess, Arthur Clinton,	*Catlin,*	Political Science.
Borton, William Franklin,	*DeLand,*	Electrical Eng'g.
Breitstadt, John Henry,	*Quincy,*	Chemistry.
Broadhead, Annie Maple,	*Normal,*	Latin and Mod. Lang.
Brown, Lewis,	*Rockford,*	Mechanical Eng'g.
Brundage, Martin Denman,	*Malta,*	General, L. and A.
Buerkin, Emma,	*Quincy,*	General, L. and A.
Burrill, Letta Evelyn,	*Kansas City, Mo.,*	Polit. Science.
Cabeen, Fred Earl,	*Aledo,*	Agriculture.
Cadwell, Charles Nickerson,	*Cadwell,*	General, L. and A.
Carter, William Curtis,	*Homer,*	Mechanical Eng'g.
Chapin, Arlo,	*Champaign,*	General, L. and A.
Clark, Edith, A.B., 1899,	*Vandalia,*	Library.
Clark, Emma Alberta,	*Urbana,*	General, L. and A.
Clarke, Elwyn Lorenzo,	*Momence,*	Civil Engineering.
Collis, Frank Bernard,	*Rockford,*	Mechanical Eng'g.
Condit, Jay Sidney,	*Beardstown,*	General, L. and A.
Cook, Thomas L,	*Mt. Pulaski,*	General, L. and A.
Cook, William Adelbert,	*Urbana,*	Political Science.
Cowley, Thomas Philip,	*Rockford,*	Mechanical Eng'g.
Crocker, William,	*Kewanee,*	Pedagogy, S.
Cunningham, Ralph Edwin,	*Emporia, Kas.,*	Electrical Eng'g
Dadant, Louis Charles,	*Hamilton,*	Mechanical Eng'g.
Dalbey, Dwight Stout,	*Taylorville,*	Agriculture.
Danely, Mary Golden,	*Champaign,*	General, L. and A.

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DeMotte, Ruby Thorne,	*Urbana,*	General Science.
DeVelde, Harry Samuel,	*Chicago,*	General, L. and A.
Dobbins, Ethel Irene,	*Champaign,*	General, L. and A.
Dole, Sarah Pauline,	*Mattoon,*	General, L. and A.
Donoghue, William Joseph,	*LaSalle,*	Chemistry.
Draper, Charlotte Enid,	*Hakodate, Japan,*	Gen., L. and A.
Draper, Edwin Lyon,	*Urbana,*	Chemistry.
Drew, Fred Leon,	*Elgin,*	Mechanical Eng'g.
Drury, Clair Fred,	*New Boston,*	Architecture.
Dunbar, Margaret, B.L. (*Monmouth Coll.*), 1896,	*Monmouth,*	Library.
Dunkin, William Van,	*Urbana,*	Mechanical Eng'g.
Dunning, William Neil,	*Chicago,*	Civil Engineering.
Ebersol, Elmer Tryon,	*Ottawa,*	General Science.
English, Edward Cary, Jr.,	*Anna,*	Architecture.
Ensign, Alice Orra,	*Oak Park,*	Library.
Etherton, William Alonzo,	*Carbondale,*	Architectural Eng'g.
Fairclo, George Cassius,	*Champaign,*	Civil Engineering.
Falkenberg, Fred Peter,	*Chicago,*	General, L. and A.
Farrin, James Moore,	*Cairo,*	Civil Engineering.
Farrin, William Otis,	*Cairo,*	Agriculture.
Forbes, Ernest Browning, B.S., 1897,	*Urbana,*	Agriculture.
Francis, Oscar Jefferson,	*Omaha, Neb.,*	Architecture.
Frazier, James William, Jr.,	*Bushton,*	General Science.
Freese, John Andrew,	*Cadwell,*	Prep. to Medicine.
Fullenwider, Thomas Irvin,	*Mechanicsburg,*	Civil Eng'g.
Fullerton, Hugh Regnier,	*Havana,*	General, L. and A.
Fulton, Robert Bruce,	*Hartford City, Ind.,*	Civil Eng'g.
Gage, Ralph Hawes,	*Chicago,*	Civil Engineering.
Gallaher, Lewis Theron,	*Mt. Palatine,*	General, L. and A.
Geiger, Mabel Louise,	*Peoria,*	Library.
Gilkerson, Aletha,	*Urbana,*	General Science.
Gillespie, Belle Irene,	*Champaign,*	General, L. and A.
Goff, Mary Emma,	*Rantoul,*	General, L. and A.
Goodale, Grace,	*Cincinnati, Ohio,*	Library.
Graves, Marjorie,	*Dubuque, Iowa,*	Library.
Goss, Edna Lucy,	*Chicago,*	Library.
Greenman, Edwin Gardner,	*Champaign,*	Mechanical Eng'g.
Hagedorn, Carl Frederick,	*Rock Island,*	Chemistry.
Hanna, Max Ross,	*Rushville,*	Electrical Eng'g.

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Harman, John James,	*Milford,*	Mechanical Eng'g.
Harris, Chester Ellis,	*Ogden,*	Prep. to Medicine.
Harris, Thomas Luther,	*Modesto,*	General, L. and A.
Harshman, Lucius Romaine,	*Sullivan,*	Classical.
Heinzelman, Jacob Harold,	*Peoria,*	General, L. and A.
Henderson, Alexander,	*Chicago,*	General, L. and A.
Higgins, Francis Whitson,	*Chicago Heights,*	Chemistry.
Higgins, Samuel Chase,	*ElPaso, Texas,*	Mechanical Eng'g.
Hinshaw, George Jacob,	*Danvers,*	General, L. and A.
Howe, Harriet Emma,	*Urbana,*	Library.
Hulce, Jennie Alice, Ph.M. (*Hillsdale Coll.*), 1899,	*Hillsdale, Mich.,*	Library.
Hunter, Charles Phelps,	*Newton, Ia.,*	General, L. and A.
Ingham, Leonard Ward,	*Clinton,*	General, L. and A.
James, Harry Demming,	*Amboy,*	General, L. and A.
Johnson, Fred Vollentine,	*Champaign,*	Mechanical Eng'g.
Johnson, Gus Hugh,	*Decatur,*	General, L. and A.
Johnson, John Peter,	*Des Moines, Ia.,*	Mechanical Eng'g.
Jones, Warren,	*Whitehall,*	General, L. and A.
Jutton, Lee,	*Champaign,*	Civil Engineering.
Kable, Charles Howard,	*Virden,*	Architecture.
Keator, Edward Oris,	*Polo,*	Civil Engineering.
Kelly, Arthur Rolland,	*Waterloo, Ia.,*	Architecture.
Knight, Lee Irving,	*Decatur,*	General, L. and A.
Kofoid, Reuben Nelson,	*Normal,*	Chemistry.
Lindgren, Justa Morris,	*Moline,*	Chemistry.
Lloyd, George Taylor, B.L. (*Wheaton Coll.*), 1900,	*Glen Ellyn,*	Pedagogy.
Lummis, Jessie Isa,	*Quincy,*	General, L. and A.
Lund, Hugo,	*Kansas City, Mo.,*	Mech. Eng'g.
Lundgren, Carl Lee,	*Marengo,*	Civil Engineering.
Luther, Otto Lawrence,	*Quincy,*	Classical.
McCarthy, Harry,	*Moline,*	Mechanical Eng'g.
McCully, Harriet Elizabeth,	*Champaign,*	General, L. and A.
McGinnis, Mary Ola,	*Dawson,*	General Science.
McMurry, Karl Franklin,	*Normal,*	General, L. and A.
Malcolm, Charles Wesley,	*Roseville,*	Civil Engineering.
Mapes, John Victor,	*Paris,*	Chemistry.
Martin, Albert Carey,	*LaSalle,*	Architectural Eng'g.
Matthews, Robert Clayton,	*Joliet,*	Mechanical Eng'g.
Maxwell, Esther Anna,	*Champaign,*	Library.

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Mount, Madison Hoge,	*Walnut Prairie,*	Mech. Eng'g.
Neff, Mary,	*Bloomington,*	General, L. and A.
Norris, Carter,	*Farmer City,*	General, L. and A.
Odell, Rena May,	*Morrison,*	General, L. and A.
Omer, Lewis,	*Clayton,*	Math. and Physics.
Oyen, Albert Nelson,	*Chicago,*	Prep. to Medicine.
Parker, Lawrence Gilbert,	*Toluca,*	Civil Engineering.
Patton, Ada,	*Paxton,*	Library.
Peterson, Christian Peter Lauritz,	*Roskilde, Denmark,*	Civil Eng'g.
Pitts, Henrietta Betsy,	*Bloomington,*	General, L. and A.
Plant, Francis Benjamin,	*Texas City, Texas,*	Chemistry.
Poor, Edwin Lindsay,	*Streator,*	General Science.
Post, Hiram Franklin,	*Rock Rapids, Ia.,*	Mech. Eng'g.
Readhimer, Jerome Edward,	*Normal,*	Agriculture.
Reasoner, Clara Beck,	*Seymour,*	General, L. and A.
Reaves, George I,	*Wauponsee,*	General Science.
Richey, John Jefferson,	*Polo,*	Civil Engineering.
Riley, Anna Bethiar,	*Urbana,*	General, L. and A.
Roberts, Harry Ashton,	*Ottawa,*	Civil Engineering.
Rolfe, Mary Annette,	*Champaign,*	General Science.
Rose, Alice,	*Oak Park,*	General, L. and A.
Rose, L Vernon,	*Mattoon,*	General, L. and A.
Samson, Charles Leonard,	*Urbana,*	Mechanical Eng'g.
Sanders, Theodore Marcus,	*Little Rock, Ark.,*	Architecture.
Sawyer, Donald Hubbard,	*Oak Park,*	Municipal Eng'g.
Sawyer, George Loyal,	*Oak Park,*	Municipal Eng'g.
Schumacher, Tillie Joe,	*Champaign,*	General, L. and A.
Scudder, Harry Disbro,	*Chicago,*	Agriculture.
Shimmin, Robert Philip,	*Rockford,*	Mechanical Eng'g.
Simpson, Frances, M.L., *(Northwestern Univ.)*, 1898,	*Evanston,*	Library.
Smith, Arthur Bourne, PH.B., *(Wesleyan Univ.)*, 1900,	*Lockwood, N. Y.,*	Library.
Smith, Ellen Garfield,	*Chicago,*	Library.
Smith, Roy,	*Colusa,*	General, L. and A.
Snodgrass, John McBeath,	*Chicago,*	Mechanical Eng'g.
Spaulding, Ida Mary,	*Oshkosh, Wis.,*	Library.
Stedman, Jeanette,	*Champaign,*	Music.
Steele, Lavinia,	*Coon Rapids, Ia.,*	Library.
Steinmayer, Otto Christopher,	*LaSalle,*	Chemistry and Eng'g.
Stewart, John Pogue,	*Biggsville,*	General Science.

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Swanberg, Floyd Ludwig,	*Danville,*	Mechanical Eng'g.
Taylor, Helen Mary,	*Bloomington,*	General, L. and A.
Thompson, Frank Linn,	*Champaign,*	General, L. and A.
Thompson, McDonald,	*Isabel,*	Civil Eng'g.
Updike, Hector,	*Belleville,*	Mechanical Eng'g.
VanMeter, George William,	*Washington,*	Architecture.
Von der Lippe, Ernest Carl Frederick,	*Chicago,*	Civil Engineering.
Waller, Sarah Bell, B.S., *(Oxford Coll.)*, 1897,	*River Forest,*	Library.
Waterbury, Leslie Abram,	*Polo,*	Civil Engineering.
Wendell, Francis George,	*New Holland,*	Civil Eng'g.
Wesselhoeft, Charles Dietrich,	*Chicago,*	Electrical Eng'g.
White, James Dunwell,	*Taylorville,*	General, L. and A.
Whitehouse, Edith Ursula,	*Canton,*	Classical.
Whitson, Milton James,	*Davenport, Ia.,*	Architecture.
Wilkinson, Nathan,	*Emporia, Kas.,*	Electrical Eng'g.
Williams, Elrick,	*Illiopolis,*	Chemistry.
Wilson, Thomas,	*Caledonia,*	Electrical Eng'g.
Wolff, Solomon,	*ElPaso, Texas,*	Electrical Eng'g.
Wolleson, Herbert Henry,	*Belleville,*	Architectural Eng'g.
Zipf, Ferdinand,	*Hopedale,*	Math. and Physics.

JUNIORS

Alexander, Elizabeth Walton,	*Ithaca, N. Y.,*	Library.
Allen, Mae Louise,	*Champaign,*	General, L. and A.
Allin, Eugenia,	*Bloomington,*	Library.
Anderson, Mary,	*Macon,*	Philosophy, L. and A.
Apple, Charles,	*Palestine,*	Civil Eng'g.
Armstrong, James Ellis, A.B., 1897,	*Bondville,*	Agriculture.
Atwood, James Thomas,	*Rockford,*	Mechanical Eng'g.
Baker, Howard Newell,	*Champaign,*	Prep. to Medicine.
Baker, Lou,	*LeRoy,*	General Science.
Barker, Perry,	*Rochelle,*	Chemistry.
Barrett, James Theophilus,	*Butler,*	General Science.
Bear, Ernest,	*Bearsdale,*	Civil Engineering.
Bear, Katharine W,	*Ludlow,*	General, L. and A.
Beaty, Francis Marion,	*Marion,*	Philosophy, L. and A.
Beers, LeRoy Fitch,	*North Harvey,*	Mechanical Eng'g.
Bennett, Stella,	*Irene,*	Library.

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Berger, John Milton,	*Dolton Station,*	Prep. to Medicine.
Block, Edgar William,	*Sidney,*	Civil Eng'g.
Boggs, Mary Lawrence,	*Washington, D. C.,*	Library.
Bond, Austin,	*Carmel, Ind.,*	Architecture.
Booker, Helen Ethel,	*Champaign,*	Latin and Mod. Lang.
Boon, Harry Lehre,	*Armstrong,*	General, L. and A.
Borton, Lucina Jane,	*DeLand,*	General, L. and A.
Bowman, Gertrude,	*Brimfield,*	Library.
Bradshaw, Jessie Isabel,	*Chicago,*	General, L. and A.
Braley, Esther, A.B., *(Univ. of Mich.)*, 1898,	*Saginaw, Mich.,*	Library.
Briggs, Edwin Cressy,	*Rockford,*	Mechanical Eng'g.
Brookings, Louise Roberts,	*DuQuoin,*	General, L. and A.
Brotherton, Jane Widney, B.S., *(Shepardson Coll.)*, 1899,	*Delphos, O.,*	Library.
Buell, Edward Thomas,	*Chicago,*	Electrical Eng'g.
Buerkin, Marguerite,	*Quincy,*	General, L. and A.
Burkhalter, Wayne Edison,	*Peoria,*	Civil Eng'g.
Burkhart, Jean,	*Marion,*	General, L. and A.
Burrill, Mildred Ann,	*Urbana,*	General, L. and A.
Cabanis, Rena Clark,	*Kinmundy,*	Civil Eng'g.
Campbell, Daisy Irene,	*Champaign,*	General, L. and A.
Campbell, Maude Permil,	*Champaign,*	Music.
Carr, Earl Henry,	*DuQuoin,*	General, L. and A.
Carriel, Fred Clifford,	*Jacksonville,*	Railway Eng'g.
Cavanor, Frank Tracy,	*Chicago,*	Prep. to Medicine.
Chacey, Anna Olive,	*Hillsboro,*	General, L. and A.
Chamberlain, Martin Tuttle,	*Muskegon, Mich.,*	Arch. Eng'g.
Chisholm, Estella Forth,	*Champaign,*	General, L. and A.
Clark, Mary Helen,	*Peoria,*	Library.
Clark, Matilda Lenna,	*Elvaston,*	General, L. and A.
Clark, Thomas Aquilla,	*Urbana,*	Electrical Eng'g.
Clinton, Anna Lucile,	*Polo,*	Library.
Coar, Elsa Jeanette,	*Cambridge, Mass.,*	Gen., L. and A.
Cook, James Fitchie,	*Dundee,*	Mechanical Eng'g.
Cotton, Mrs. Gertrude Jacobs, M.D. *(Woman's Med. Coll.)*, 1889,	*Delavan, Wis.,*	Library.
Countryman, Merton Alvin,	*Rochelle,*	Civil Eng'g.
Cummings, Ruth Rozelle, A.B. *(Washington Univ.)*, 1901,	*St. Louis, Mo.,*	Library.
Cusick, John Fay,	*Chrisman,*	Philosophy.

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Dake, LeRoy Gilbert,	*Harvard,*	General, L. and A.
Dallenbach, J C,	*Champaign,*	Prep. to Medicine.
Danahey, Thomas Francis,	*Quincy,*	Classical.
Daniels, Edna Earle,	*Danville,*	Library.
Darlington, Genevieve,	*LaGrange,*	Library.
Davis, Maud Amanda, B.L. (*Drake Univ.*), 1901,	*Des Moines, Ia.,*	Library.
Dawson, Charles Hubbard,	*Bement,*	General, L. and A.
Dayton, Laura,	*Paris,*	Music.
Dickerson, Oliver Morton,	*West Liberty,*	Political Science.
Dirks, Henry Bernhard,	*Chicago,*	Mechanical Eng'g.
Dodge, Bertha Alma, A.B. (*Tufts Coll.*), 1901,	*Williamsville, Vt.,*	Library.
Dolkart, Leo,	*Chicago,*	Electrical Eng'g.
Douglass, Donald Pierson,	*Colfax,*	Agriculture.
Drake, Jeannette Mae,	*Decatur,*	Library.
Drury, Ralph Southward,	*New Boston,*	Mechanical Eng'g.
Duffy, Guy,	*Ottawa,*	General, L. and A.
Duffy, James Franklin, Jr.,	*Chicago,*	Electrical Eng'g.
Duren, Fanny, PH.B. (*Iowa Coll.*), 1898,	*Eldora, Ia.,*	Library.
Eidmann, Gustav Herman,	*Mascoutah,*	Agriculture.
Elder, Bessie Marie,	*Topeka, Kas.,*	Music.
Fisher, Clara Edna,	*Champaign,*	General, L. and A.
Fiske, Clarence Wilson,	*Sterling,*	Mechanical Eng'g.
Forbes, Ethel Clara Schumann,	*Urbana,*	General, L. and A.
Forbes, Marjorie Douglas,	*Urbana,*	General, L. and A.
French, Maurice Deen,	*Danville,*	Electrical Eng'g.
Fursman, William Hiram,	*ElPaso,*	Civil Eng'g.
Garden, Henry Rhiel,	*Joliet,*	Civil Eng'g.
Garver, Willia Kathryn,	*Bloomington,*	Library.
Gaston, Ralph Mayo,	*Normal,*	Electrical Eng'g.
Gibbs, Elizabeth Hayward,	*Urbana,*	Music.
Gibbs, Laura Russell,	*Urbana,*	Library, L. and A.
Gilkerson, Frances Emeline,	*Urbana,*	General, L. and A.
Gold, Katharine Eaton,	*Chicago,*	Library.
Goodman, Herbert Marcus,	*Chicago,*	General Science.
Green, Charles Henry,	*Sterling,*	Mechanical Eng'g.
Green, Clarence,	*Lawrenceville,*	General, L. and A.
Greene, Elizabeth Grosvenor,	*Tokio, Japan,*	Library.
Habermeyer, George Conrad,	*Aurora,*	Civil Engineering.

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Haight, Samuel John, Jr.,	*Mendota,*	Agriculture.
Harris, Thaddeus Sidney,	*Modesto,*	General Science.
Hauter, Joseph Elmer,	*Tiskilwa,*	General, L. and A.
Hawley, Edna May,	*Chicago,*	Library.
Hayhurst, Emery Roe,	*Maywood,*	Prep. to Medicine.
Hayward, Mabel,	*Chicago,*	General, L. and A.
Heath, Lillian,	*Whiteheath,*	General, L. and A.
Henderson, Mary,	*Cedar Rapids, Ia.,*	Library.
Herrick, Lyle George,	*Farmer City,*	General, L. and A.
Higgins, Charles Huntington,	*Quincy,*	Chemistry.
Holder, Vernon Milner,	*Normal,*	Architecture.
Holderman, Marjorie Campbell,	*Urbana,*	General, L. and A.
Huntington, Theophania,	*Denver, Colo.,*	Library.
Huntoon, John Samuels,	*Moline,*	Civil Eng'g.
Ingersoll, Frank Bruce,	*Chicago,*	Civil Eng'g.
Inks, Frank Emerson,	*Ohio,*	General Science.
Ireland, Washington Parker,	*Chicago,*	Civil Eng'g.
Jackson, Fanny Rebecca, A.B. (*Rockford Coll.*), 1896,	*Jacksonville, Wis.,*	Library.
Jarman, Henry Phelps,	*Elmwood,*	Chemistry.
Jennings, Anna Vivian,	*Davenport, Neb.,*	Library.
Johnson, Albert Myron,	*Kishwaukee,*	Mechanical Eng'g.
Johnson, Frederick Dawson,	*Alton,*	Railway Eng'g.
Jones, J Claude,	*Chicago,*	General Science.
Jones, Lucile,	*Chicago,*	Library.
Jutton, Emma Reed, B.L.S., 1899,	*Champaign,*	General, L. and A.
Kelley, Grace Osgood,	*Muskegon, Mich.,*	Library.
Kelso, Curtis Elmer,	*Thomasboro,*	Prep. to Medicine.
Kennedy, Helen Theresa,	*Jacksonville,*	Library.
Ketzle, Henry Benjamin,	*Reynolds,*	Mechanical Eng'g.
Kincaid, Stewart William, A.B. (*Austin Coll.*), 1899,	*Effingham,*	General, L. and A.
Koehn, Anna,	*Chicago,*	General, L. and A.
Kuss, Robert Hayden,	*Peoria,*	Mechanical Eng'g.
Kutsch, William Adelbert,	*LaSalle,*	Chemistry and Eng'g.
Langworthy, Carrie Valeria,	*Dubuque, Ia.,*	Library.
Lefler, Emma Grace,	*Pontiac,*	Library.
Lehner, John Conrad,	*Stockton,*	General, L. and A.
LeSourd, Alfred Curtis,	*Topeka,*	Civil Eng'g.
Lewis, Magdalen, A.B. (*Granville Female Coll.*), 1887,	*Granville, Ohio,*	Library.

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Lloyd, Robert Clinton,	*Canton,*	Agriculture.
McFarland, James Albert,	*Mendota,*	Chemistry.
McIntosh, Kathryn Eleanor Annie,	*Champaign,*	General, L. and A.
McRobie, Isabel,	*Chicago,*	Latin.
Mann, Alice Calhoun,	*Danville,*	Library.
Manspeaker, Pearle,	*Champaign,*	General, L. and A.
Marker, George Edward,	*Onarga,*	General, L. and A.
Marriott, John Minges,	*Delaware, Ohio,*	Architecture.
Marsh, George Requa,	*Marseilles,*	Agriculture.
Martin, James Walter, Jr.,	*Wilmington,*	General, L. and A.
Matthews, Mary Alice,	*Mayview,*	Library.
Mayer, Elmer Benjamin,	*Mt. Pulaski,*	General, L. and A.
Metzger, Louis Charles Frederick,	*Belleville,*	Civil Eng'g.
Mills, Ralph Garfield,	*Decatur,*	General Science.
Miskimen, William Anderson,	*Hoopeston,*	Mechanical Eng'g.
Moore, Claud Bliss,	*Wilmington,*	Mechanical Eng'g.
Morgan, Stella Webster,	*Urbana,*	English.
Morrow, Nelson C,	*Rockford,*	Prep. to Medicine.
Munsen, Andrew,	*Henry,*	Civil Eng'g.
Myers, Winifred,	*Champaign,*	General, L. and A.
Noble, Thomas,	*Urbana,*	Agriculture.
Null, Samuel Franklin,	*Blandinsville,*	Agriculture.
O'Hearn, Juliet,	*Berlin, Wis.,*	Library.
Owen, Anna May, A.B. (*Indiana Univ.*), 1901,	*Bedford,*	Library.
Oxer, George Carl,	*Macon,*	Electrical Eng'g.
Park, William Mansfield,	*Urbana,*	Mechanical Eng'g.
Parker, Roy Sheldon,	*Toluca,*	General, L. and A.
Piper, Ellsworth Elmer,	*Chicago,*	Electrical Eng'g.
Powell, Sadie,	*Lima, Ind.,*	Library.
Powers, George Augustus,	*Edinburg,*	General, L. and A.
Prater, Banus Hutson,	*Decatur,*	Civil Eng'g.
Price, Hugh Mitchel,	*Urbana,*	Civil Eng'g.
Provine, Loring Harvey,	*Macomb,*	Architecture.
Putnam, Sarah Mary,	*Hillsdale, Mich.,*	Library.
Quayle, Henry Joseph,	*Champaign,*	General Science.
Ramsey, William Everton,	*Chicago,*	Architectural Eng'g.
Randall, Bertha Thatcher, B.L. (*Smith Coll.*), 1893,	*Decatur,*	Library.
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Rightor, Fred Elmer,	*Rockford,*	Civil Eng'g.
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Rolfe, Susie Farley,	*Champaign,*	General Science.
Rose, Fred Wayland,	*Mason,*	Electrical Eng'g.
Rutt, Roy Weaver,	*Sterling,*	Mechanical Eng'g.
Schacht, John Henry,	*Moline,*	Architecture.
Schmidt, Ellen,	*Chicago,*	General, L. and A.
Schmidt, Gustavus Adolphus,	*Chicago,*	Prep. to Medicine.
Scott, James Rhittenhouse, Jr., PH.B. (*Univ. of Vt.*), 1901,	*New York, N. Y.,*	Library.
Seymour, Budd Willard,	*Dwight,*	Civil Eng'g.
Sheldon, Maude Lillian,	*Sharpsburg,*	General Science.
Sheldon, Victor Lorenzo,	*Taylorville,*	Mechanical Eng'g.
Shelton, Addison M,	*Loami,*	General, L. and A.
Shoemaker, John Earl,	*Charleston,*	Philosophy.
Siler, Roderick William,	*Chicago,*	Civil Eng'g.
Skinner, Elgie Ray,	*Champaign,*	Mechanical Eng'g.
Smith, Charles Henry,	*Metamora,*	General, L. and A.
Smith, Wilson Marshall,	*Waverly,*	Agriculture.
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Stuebe, Leonard Fred,	*Danville,*	Architecture.
Stutsman, Ada Helen,	*Quincy,*	General, L. and A.
Sussex, James Wolfe,	*Abingdon,*	Civil Eng'g.
Swezey, Anne Davies,	*Hinsdale,*	Library.
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Varnes, Albert Grafton,	*Farmington,*	Civil Eng'g.
Wallace, Jacob H,	*Altamont,*	Mechanical Eng'g.
Wardall, Ruth Aimee,	*Tuscola,*	Household Science.
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Westhold, Hannah Amanda,	*Marbelhead,*	General, L. and A.

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Wilson, Joseph Wade,	*Moline,*	Architecture.
Woodmansee, Ralph Collum,	*Champaign,*	Library.
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Aldrich, Blanche,	*Normal,*	General, L. and A.
Allen, Arthur William,	*Peoria,*	Architectural Eng'g.
Allen, Paschal,	*Delavan,*	Agriculture.
Anderson, John Edward,	*Paxton,*	General, L. and A.
Armeling, Carl Elmer,	*Mason City,*	Classical.
Armstrong, Gertrude Maud,	*Champaign,*	General, L. and A.
Askins, Adolphus Edward,	*Lakewood,*	Civil Eng'g.
Baer, David Arthur,	*Alexis,*	Electrical Eng'g.
Bailey, Walter Thomas,	*Kewanee,*	Architecture.
Baker, Imo Estella,	*Champaign,*	General, L. and A.
Ballard, William Salisbury,	*Batavia,*	General Science.
Ballinger, Ralph Adams,	*Keokuk, Ia.,*	Mechanical Eng'g.
Barker, Rollin Sabin,	*Mason,*	Civil Eng'g.
Barnhart, Charles Anthony,	*Mansfield,*	Math. and Physics.
Barnhart, Jesse Melangthon,	*Mansfield,*	Chemistry.
Barry, Harold Bradford,	*Hillsboro,*	Civil Eng'g.
Barter, Harold Hendryx,	*Chicago,*	Mechanical Eng'g.
Bates, Patrick Francis,	*Tolono,*	Civil Eng'g.
Bauer, Ralph Stanley,	*Stonington,*	Classical.
Benson, Arthur Chapman,	*Cedar Bluff,*	General, L. and A.
Best, John Henry,	*Quincy,*	Civil Eng'g.
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Blackburn, Roy Jabez,	*Decatur,*	Civil Eng'g.
Bond, Annie Louise,	*Mt. Vernon,*	General, L. and A.
Borton, Byron Sarver,	*DeLand,*	General, L. and A.
Boucher, Andrew Sherman,	*Murphysboro,*	General, L. and A.
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Brunner, Camilla Margaret,	*Peru,*	General, L. and A.
Buchanan, John Lee,	*Lacon,*	Electrical Eng'g.
Burford, Cary Clive,	*Hoopeston,*	General, L. and A.
Burgess, Fred Henry,	*Monticello,*	Civil Eng'g.
Burgess, Ralph Royal,	*Monticello,*	Architecture.
Burr, Elizabeth Hal,	*Champaign,*	Library, L. and A.
Campbell, Muriel Florence,	*Champaign,*	General, L. and A.
Cattron, John William,	*Fairview,*	Agriculture.
Cayou, Francis Mitchell,	*Decatur, Neb.,*	Electrical Eng'g.
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Chapman, Daniel Ward,	*Vienna,*	General, L. and A.
Charles, Paul Lamont,	*Woodstock,*	Electrical Eng'g.
Chester, Anna,	*Champaign,*	General, L. and A.
Christopher, Mrs. May Kennedy,	*Champaign,*	General, L. and A.
Cisar, Ida May,	*Chicago Heights,*	Gen., L. and A.
Clark, Angie Ray,	*Urbana,*	English.
Clark, George Arthur,	*Peoria,*	Civil Eng'g.
Clark, Gilbert Barton,	*Urbana,*	General, L. and A.
Clarkson, Edna,	*Carthage, Mo.,*	Library, L. and A.
Coolidge, Orrill Pauline,	*Niles, Mich.,*	Library, L. and A.
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Crosthwait, George Ashley,	*Urbana,*	Agriculture.
Curtis, Paul Steele,	*Arcola,*	Chemistry.
Dadant, Henry Camille,	*Hamilton,*	Civil Eng'g.
Darlington, Herbert Spencer,	*LaGrange,*	Electrical Eng'g.
Davis, Cleon Leslie,	*Mt. Zion,*	Civil Eng'g.
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Davis, John Wolfersperger,	*Sterling,*	Civil Eng'g.
DeGraffe, Franc Marie,	*Fonda, Ia.,*	Library.
Deutschmann, Fred John, Jr.,	*Belleville,*	Civil Eng'g.
Dickerson, George Hamm,	*Mahomet,*	Mechanical Eng'g.
Dickey, Cromwell Bartlett,	*LaGrange,*	Chem. and Eng'g.
Diefenbach, Arthur Garfield,	*Blue Island,*	Electrical Eng'g.
Diener, Walter Gustav,	*Chicago,*	Electrical Eng'g.
Dillon, Mertie May,	*Normal,*	General, L. and A.
Doeden, Frederic Hugo,	*Eureka,*	General, L. and A.
Dorsey, Clarence Benson,	*Moro,*	Agriculture.

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Elder, Ralph Maxwell,	*Hamilton,*	Civil Eng'g.
Engstrom, Roy Victor,	*Peoria,*	Civil Eng'g.
Ericson, Lambert Theodore,	*Moline,*	Civil Eng'g.
Errett, Albert Widney, Jr.,	*Kewanee,*	Mechanical Eng'g
Evans, Kenneth Neill,	*Taylorville,*	Philosophy.
Ewing, Charles Edwin,	*Decatur,*	Civil Eng'g.
Fechét, Mary Forsythe,	*Champaign,*	General, L. and A.
Ferguson, William Clarence,	*Clarinda, Ia.,*	Civil Eng'g.
Flagg, Samuel Barry,	*Alton,*	Mechanical Eng'g.
Fleming, Clarence Earl,	*Delavan,*	General, L. and A.
Fleming, Virgil R,	*Denver,*	Civil Eng'g.
Fletcher, Carl Joshua,	*Galesburg,*	Electrical Eng'g.
Floto, Ernest Charles,	*Dixon,*	Civil Eng'g.
Ford, Ernest Jason,	*Prairie Center,*	Prep. to Medicine.
Frankenberg, Pearle,	*Urbana,*	Library, L. and A.
French, Burton,	*Chicago,*	Electrical Eng'g.
Galeener, John Halbert,	*Vienna,*	General, L. and A.
Garnett, Elmer Logan,	*St. Marys,*	General, L. and A.
Gaston, Newton David,	*Peoria,*	Mechanical Eng'g.
Gengler, Wilbert,	*Sandwich,*	Chemistry.
Gibbs, Charles Henry,	*Princeton,*	Mechanical Eng'g.
Gibbs, Charlotte Mitchell,	*Urbana,*	General, L. and A.
Gillespie, Louella Ida,	*Champaign,*	Music.
Gillespy, Charles Millard,	*Paris,*	Agriculture.
Gillham, Philip Dakin,	*Princeton,*	Civil Eng'g.
Gilmour, Joseph Coleman,	*Biggsville,*	Civil Eng'g.
Ginzel, Carl Louis,	*Trenton,*	Civil Eng'g.
Glassco, Paul Bond,	*Charleston,*	Architectural Eng'g.
Gorham, Josiah,	*Champaign,*	Chemistry.
Gramesly, Margaret Amidon,	*Charleston,*	Library, L. and A.
Green, Cella Genevieve,	*Ivesdale,*	General, L. and A.
Greenwood, Harris Paul,	*Edwardsville,*	Electrical Eng'g.
Hadden, Samuel Cornelius,	*Mason,*	Civil Eng'g.
Hadfield, Frank Stanley,	*Chicago,*	Mechanical Eng'g.
Hall, Augusta Maude,	*Urbana,*	Household Science.
Hampton, Ethel Alleyene,	*Macomb,*	General Science.
Harpole, Byron,	*Champaign,*	Electrical Eng'g.

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Hawthorne, Elizabeth Lena,	*LaPlace,*	Philosophy.
Hayward, Edith Estelle,	*Ottawa,*	Library, L. and A.
Hedges, Ida Belle,	*Urbana,*	General, L. and A.
Henry, Smith Tompkins, Jr.,	*Bushnell,*	Civil Eng'g.
Herman, Edward Elmer,	*Waukegan,*	Electrical Eng'g.
Hewerdine, Thomas Sloan, A.B. (*Austin Coll.*), 1900,	*Fisher,*	Civil Eng'g.
Hilliard, Frank Wyman,	*Brighton,*	Electrical Eng'g.
Hilts, Roy Wilson,	*Bloomington,*	Chemistry.
Hoff, Edna DuBois,	*Chicago Heights,*	Chem. and Phys.
Holch, Fred Leidy,	*Gilman,*	General, L. and A.
Holcomb, Clarence Eugene,	*Milmine,*	Electrical Eng'g.
Holcomb, Timothy Osmond, Jr.,	*Milmine,*	General Science.
Hook, Isaac Herschel,	*Vienna,*	Civil Eng'g.
Horr, Ralph Ashley,	*Gibson City,*	General, L. and A.
Horr, Ray Leekley,	*Galena,*	Electrical Eng'g.
Howe, Ralph Barnard,	*Urbana,*	Agriculture.
Howell, Carrie Barnes,	*Urbana,*	Agriculture.
Hughes, Smith Yale,	*Antioch,*	Electrical Eng'g.
Hunt, Mabel Dorothy,	*Urbana,*	General, L. and A.
Hunter, Lum,	*Paris,*	General, L. and A.
Huntington, Ellen Alden,	*Hartford, Conn.,*	Household Sci.
Hyde, Sophie,	*Chicago,*	Library, L. and A.
Jacobs, Manuel Joseph,	*Chicago,*	Civil Eng'g.
James, Lee Roy,	*Beardstown,*	General, L. and A.
Karnopp, Edwin Benjamin,	*Champaign,*	Civil Eng'g.
Kelly, David Henry,	*ElPaso, Texas,*	Electrical Eng'g.
Keusink, Wilhelmina Minnie,	*Champaign,*	Civil Eng'g.
King, Leila Pauline,	*Rockford,*	Library, L. and A.
King, Louis Blume,	*Champaign,*	General, L. and A.
Kircher, Harry Bertram,	*Belleville,*	Electrical Eng'g.
Knapp, Noah,	*Hindsboro,*	Philosophy.
Kneeland, Frank Hamilton,	*Dwight,*	Mechanical Eng'g.
Knowlton, William David,	*Onarga,*	General Science.
Kreisinger, Henry,	*Champaign,*	Mechanical Eng'g.
Larson, Lawrence Fred,	*Galva,*	General, L. and A.
Lease, Leonard John,	*Nokomis,*	Electrical Eng'g.
Leverton, Ernest Richard,	*Warren,*	Mechanical Eng'g.
Logeman, Albert Edwin,	*Ravenswood,*	Mechanical Eng'g.

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McCarty, John,	*Tuscola,*	Agriculture.
McClelland, Robert Alexander, Jr.,	*Yorkville,*	Agriculture.
McCullough, John Fred,	*Centralia,*	Electrical Eng'g.
McIlhenny, Mary Elizabeth,	*Macomb,*	General Science.
McKnight, William Asbury,	*Ingraham,*	Civil Eng'g.
MacLochlin, Virginia,	*Danvers,*	Library, L. and A.
McMillan, Neil, Jr.,	*Chicago,*	Architecture.
Mahan, Angeline Floyd,	*Lexington,*	General, L. and A.
Mahurin, Guy Marshall,	*Indianapolis, Ind.,*	Architecture.
Marsh, Thomas Alfred,	*Loda,*	Mechanical Eng'g.
Marsh, Wallace Hickling,	*Marseilles,*	Civil Eng'g.
Mattis, Julia Rebecca,	*Champaign,*	General, L. and A.
Maxey, Mima Agnes,	*Carlyle,*	General, L. and A.
Mead, Clarence Eugene,	*Chillicothe,*	Electrical Eng'g.
Mercer, Iva Esther,	*Centralia,*	General, L. and A.
Meyer, Robert Conrad,	*Gilman,*	Electrical Eng'g.
Mills, Floyd Earl,	*Mt. Palatine,*	Civil Eng'g.
Monier, Sara,	*Champaign,*	Music.
Morrow, Louise,	*Rockford,*	General, L. and A.
Morse, Henry Charles,	*Chandlerville,*	Civil Eng'g.
Muhl, Fred Lewis,	*Bloomington,*	Architectural Eng'g.
Murphey, Howard Bruce,	*Champaign,*	Civil Eng'g.
Noe, Samuel Rufus,	*Auburn,*	General, L. and A.
Nydegger, Adolph,	*Danville,*	Electrical Eng'g.
Paine, Mattie May,	*Rosemond,*	General, L. and A.
Parrett, William Gaylord,	*Newport, Ind.,*	Civil Eng'g.
Patterson, Maud May,	*Rochelle,*	Math. and Physics.
Penfield, Albert Charles,	*Rockford,*	Electrical Eng'g.
Peterson, John Frederick,	*Kewanee,*	Civil Eng'g.
Pilcher, Lela Gretchen,	*Streator,*	Math. and Astronomy.
Polk, John Luther,	*Champaign,*	General, L. and A.
Pope, Karl Dean,	*DuQuoin,*	Political Science.
Popejoy, Lida Elizabeth,	*Lexington,*	General, L. and A.
Post, Raebern Henry,	*Champaign,*	Electrical Eng'g.
Preston, Justin Warner,	*Chicago,*	Political Science.
Putney, Nelie Ada,	*LaSalle,*	General, L. and A.

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Riddle, Rollo Gaun,	*Mattoon,*	General, L. and A.
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Riley, George Albert,	*Lewistown,*	Electrical Eng'g.
Rodman, Charles Scamon,	*Moweaqua,*	General, L. and A.
Rogers, Nellie,	*Covington, Ind.,*	Gen., L. and A.
Ross, Robert Malcolm,	*Chicago,*	Prep. to Medicine.
Rosseter, Frank Stuart,	***Austin,***	Civil Eng'g.
Roulston, Robert Bennett,	*Chicago,*	Civil Eng'g.
Royall, Charles Crecy,	*Clay Center, Kas.,*	Gen., L. and A.
Rump, Guy Henry,	*Quincy,*	Civil Eng'g.
Salb, Albert,	*Elgin,*	General, L. and A.
Samson, Inez Rose,	*Urbana,*	General, L. and A.
Scott, Juliet Ann,	*Champaign,*	General, L. and A.
Sheldon, Charles Harper,	*Kewanee,*	Mechanical Eng'g.
Sheldon, Edna Weaver,	*Urbana,*	Library, L. and A.
Shilton, Carlyle Nance,	*Kewanee,*	Prep. to Medicine.
Shinn, James Ricketts,	*Mattoon,*	Agriculture.
Sides, Aimee May,	*Champaign,*	General, L. and A.
Slocum, Mary Jane,	*Loda,*	General Science.
Smith, Charles Wesley,	*Lockwood, N. Y.,*	Lib., L. and A.
Smock, Walter F,	*Decatur,*	Civil Eng'g.
Sommer, Clara Louise,	*Chicago,*	General, L. and A.
Sonntag, Mildred Eliza,	*Plainfield,*	Philosophy.
Sparks, Annie Elnora,	*Urbana,*	Classical.
Staley, Isabel,	*Champaign,*	General, L. and A.
Standard, Alphonso Perry,	*Lewistown,*	Prep. to Medicine.
Stedman, Angeline Jones,	*Champaign,*	General, L. and A.
Stenger, John William,	*Mendota,*	Mechanical Eng'g.
Stephenson, Lewis Alva,	*Redmon,*	Mechanical Eng'g.
Stewart, Robert Jaquess,	*Urbana,*	Mechanical Eng'g.
Stocker, Charles Herbert,	*Highland,*	Mechanical Eng'g.
Stone, Charles Newhall,	*Quincy,*	Mechanical Eng'g.
Stookey, Helen Florence,	*Harristown,*	General, L. and A.
Stookey, Marshall Childs,	*Harristown,*	Agriculture.
Storey, Ellsworth Prime,	*Chicago,*	Architecture.
Strehlow, Cornelia Emma,	*Shermerville,*	General, L. and A.

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Taylor, George Graham,	*Taylorville,*	General, L. and A.
Thompson, Sherman,	*Champaign,*	Architecture.
Timm, Peter Frederick William,	*Tuscola,*	Electrical Eng'g
Toney, Thomas Ellsworth,	*Virden,*	Political Science.
Toops, Claude,	*Champaign,*	Architectural Eng'g.
Trapp, William Edward,	*Lincoln,*	Agriculture.
Travis, Roy Elmer,	*Assumption,*	Civil Eng'g.
Turner, Charles Philip,	*Butler,*	Mechanical Eng'g.
Vanhorne, George Garret,	*Rockford,*	Electrical Eng'g.
Walcott, Lloyd Vernon,	*Fillmore,*	General, L. and A.
Waldorf, Arthur Louis,	*Mendota,*	Civil Eng'g.
Wallace, Charles Emerson,	*Chicago Heights,*	Chemistry.
Wasson, Ora Elmer,	*Chrisman,*	Chemistry.
Wehmeier, William Henry,	*Alton,*	Electrical Eng'g.
Welles, Miriam Ursula,	*Dover,*	Prep. to Medicine.
Wells, Reginald Ellis,	*Champaign,*	Mechanical Eng'g.
Wheeler, Edmund Burke,	*Bellflower,*	Electrical Eng'g.
Wheeler, Lynn Murray,	*Downers Grove,*	Gen., L. and A.
Wheelock, Henry Thomas,	*Moline,*	Mechanical Eng'g.
White, Caroline Louise,	*Warrensburg,*	General, L. and A.
White, Edna Noble,	*Fairmount,*	Prep. to Medicine.
Wilcox, Burton B,	*Kewanee,*	Chem. and Eng'g.
Wiley, Carroll Carson,	*Harristown,*	Civil Eng'g.
Wiley, Frank Rudolph,	*Allenville,*	General, L. and A.
Wiley, Wallace Kenneth,	*Peoria,*	Mechanical Eng'g.
Williams, Mary Edith,	*Newman,*	General, L. and A.
Wilson, LeRoy C,	*Princeton,*	Agriculture.
Wilson, Nancy Maude,	*Guthrie,*	General, L. and A.
Wilson, William LeRoy,	*Springfield,*	Civil Eng'g.
Woodin, Norman Charles,	*Rock Island,*	Mechanical Eng'g.
Woodworth, Metta Edna,	*Champaign,*	General, L. and A.
Worker, Joseph Garfield,	*Rock Island,*	Mechanical Eng'g.
Worrell, Joseph Carl,	*Chili,*	Civil Eng'g.
Worthen, Ella Eugenia,	*Warsaw,*	General, L. and A.
Wyle, Florence H,	*Waverly,*	Prep. to Medicine.
Yocum, Earl Layton,	*Galva,*	General, L. and A.

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Abrams, Duff A,	*Murphysboro,*	Civil Eng'g.
Akers, Milton,	*Homer,*	Electrical Eng'g.
Allen, Lawrence Thompson,	*Hoopeston,*	General, L. and A.
Alley, William Edwin,	*Champaign,*	Electrical Eng'g.
Apple, Merri Ghloe,	*Urbana,*	General, L. and A.
Armstrong, Jessie Eva,	*Champaign,*	General, L. and A.
Asp, Norman Henry,	*Chillicothe,*	Electrical Eng'g.
Atkinson, Helen Marie,	*Urbana,*	Classical.
Atlass, Goldie May,	*Decatur,*	General, L. and A.
Aumer, Joseph Paul,	*Peoria,*	Chemistry.
Bacon, Lewis Frank,	*LaPrairie,*	Mechanical Eng'g.
Bailey, Thomas Stanley,	*Vincennes, Ind.*	Chemistry.
Baker, Alice Alma,	*Decatur,*	General Science.
Baker, Cecil Franklin,	*Champaign,*	Architecture.
Baker, Ira Webster,	*Champaign,*	General, L. and A.
Ballou, Frederick Herbert,	*Wheaton,*	Electrical Eng'g.
Barnes, Charlotte,	*Manitowoc, Wis.,*	Gen., L. and A.
Bascom, George Rockwell,	*Chicago,*	Civil Eng'g.
Bass, Willard Jason,	*Canton,*	Mechanical Eng'g.
Bear, Fred Gamble,	*Farmington,*	Prep. to Medicine.
Beasley, Fred Edward,	*Peoria,*	Mechanical Eng'g.
Beauford, May Alice,	*Oak Park,*	Classical.
Becker, Cornelius Adolph,	*Chicago,*	Electrical Eng'g.
Bell, Clement Henry,	*Pontiac,*	Electrical Eng'g.
Bell, Roscoe Thomas,	*Urbana,*	Mechanical Eng'g.
Betts, David Roy,	*Springfield,*	Electrical Eng'g.
Blair, Thomas Hart,	*Kewanee,*	Mechanical Eng'g.
Blocher, George Douglas,	*Amboy,*	General, L. and A.
Bond, John Myron,	*Champaign,*	Mechanical Eng'g.
Boner, Halbert Evans,	*Wolcott, Ind.,*	Mechanical Eng'g.
Born, Alda Holderman,	*Champaign,*	General, L. and A.
Boston, Roy Woods,	*Yorkville,*	General, L. and A.
Bowser, Ralph Emmett,	*Bishop,*	Electrical Eng'g.
Boyer, Mabel Blanche,	*Bloomington,*	Music.
Braden, Clarence Arthur,	*Cutler,*	Agriculture.
Bradley, Tirzah Ozilla,	*Blue Mound,*	General, L. and A.
Brady, Eva Myrtle,	*Sanborn,*	General, L. and A.
Bronson, Frank Lloyd,	*Streator,*	Prep. to Medicine.
Bronson, George Henry,	*Odell,*	Electrical Eng'g.
Brookings, Clara Allan,	*DuQuoin,*	General, L. and A.

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Brown, Edwin Owen,	*Elmwood,*	Mechanical Eng'g.
Brush, Daniel Harmon, Jr.,	*Carbondale,*	General, L. and A.
Bryan, Helen Gordon,	*Champaign,*	General, L. and A.
Brydges, Carl Kent,	*Elgin,*	Electrical Eng'g.
Bullard, Helen Elizabeth,	*Springfield,*	General, L. and A.
Bumgarner, Joshua Mills,	*Magnolia,*	Mechanical Eng'g.
Burdick, Anna Lavinia,	*Assumption,*	General, L. and A.
Burggraf, Carl Irven,	*Tuscola,*	Civil Eng'g.
Burnett, William Thomas,	*Urbana,*	Electrical Eng'g.
Burroughs, Guy Chaney,	*Paines Point,*	Architecture.
Burwash, Lois Irene,	*Champaign,*	General Science.
Busey, Mary,	*Urbana,*	Music.
Busey, Virginia Richards,	*Urbana,*	General, L. and A.
Camp, Cara Louis,	*Lincoln,*	Civil Eng'g.
Capen, Bernard Charles,	*Bloomington,*	Agriculture.
Carey, William Joseph,	*Ivesdale,*	General, L. and A.
Carter, William Douglas,	*Quincy,*	Electrical Eng'g.
Casserly, Thomas David,	*Champaign,*	Mechanical Eng'g.
Caswell, Julia Ethele,	*Cairo,*	General, L. and A.
Caton, Charles Hull,	*Ottawa,*	General, L. and A.
Caton, Frank Smith,	*Warren,*	Civil Eng'g.
Caton, William Hull,	*Ottawa,*	Civil Eng'g.
Cavanaugh, William Patrick,	*Graymont,*	General, L. and A.
Chadwick, Walter,	*Chicago,*	Mechanical Eng'g.
Chenoweth, Olive Elizabeth,	*Atlanta,*	General, L. and A.
Chesley, Beulah Vinton,	*Danville,*	Library, L. and A.
Chester, Virginia,	*Champaign,*	Music.
Claggett, Ralph Bernard,	*Lexington,*	Civil Eng'g.
Clark, James Harry,	*Scottland,*	Electrical Eng'g.
Clark, William Arthur,	*Urbana,*	Prep. to Medicine.
Clay, William Wharton,	*Chicago,*	Architectural Eng'g.
Clendenen, Lois Grace,	*Cairo,*	General, L. and A.
Close, George Frederick,	*Marston,*	General, L. and A.
Coleman, Alice J,	*Sanborn, Ia.,*	General, L. and A.
Collins, Herbert Keith,	*Rock Island,*	Architectural Eng'g.
Conard, Clyde,	*Monticello,*	Agriculture.
Conard, Sarah Orvilla,	*Monticello,*	Classical.
Connelly, William J,	*Chicago,*	General, L. and A.
Converse, Edward Chapman,	*Sugar Grove,*	Pedagogy.
Coons, Clarence Wilbur,	*Bloomington,*	Agriculture.
Corrin, William Garret,	*Hillsdale,*	Civil Eng'g.

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Cox, Fred Augustus,	*Wake,*	Civil Eng'g.
Craig, Jennie Adah,	*Champaign,*	General, L. and A.
Crandall, Grace Evelyn,	*Mendota,*	General Science.
Crane, Helen Mary,	*Indianapolis, Ind.,*	Lib., L. and A.
Crawford, David Moffett,	*Champaign,*	Mechanical Eng'g.
Crawford, Edgar Lee,	*Nachusa,*	Electrical Eng'g.
Cresap, Fred,	*Urbana,*	General, L. and A.
Cutler, Frank Woodbury,	*Rockford,*	Mechanical Eng'g.
Dahl, Ralph Hulfton,	*Canton,*	Architectural Eng'g.
Dakin, Walter,	*Elgin,*	Civil Eng'g.
Dallam, Clara Hill,	*Warsaw,*	General, L. and A.
Danely, Alfred, Jr.,	*Champaign,*	General, L. and A.
Daniels, Coralie Alfredetta,	*Savoy,*	Household Science.
Davidson, Thomas Meredith,	*Champaign,*	Civil Eng'g.
Davis, Grace Olive,	*Urbana,*	General, L. and A.
Davis, Myra Leslie,	*Charleston,*	Music.
Day, Herbert Winch,	*Rockford,*	Electrical Eng'g.
Day, Winfield Scott,	*Roseville,*	Prep. to Medicine.
Dickhut, Roger Milton,	*Quincy,*	Architecture.
Dieterle, Edward August,	*Chicago,*	Mechanical Eng'g.
Donders, Charlotte Mae,	*Chicago,*	Library, L. and A.
Dorman, Archie Bland,	*Taylorville,*	General, L. and A.
Dosch, Charles Fred,	*Chicago,*	Mechanical Eng'g.
Doyle, Joseph Lemen,	*Champaign,*	General, L. and A.
DuMoulin, Walter Louis,	*Pontiac.*	Electrical Eng'g.
Dunn, Joel Ernest,	*Bement,*	Civil Eng'g.
Ealey, Minnie,	*Urbana,*	General, L. and A.
Edmiston, Emma,	*Sullivan,*	General, L. and A.
Eidam, Edward George,	*Blue Island,*	Mechanical Eng'g.
Eiker, William Henry,	*Sparta,*	Civil Eng'g.
Elden, Ralph Waldo,	*Elburn,*	Architecture.
Elliott, Josephine Ruth,	*Sterling,*	Library, L. and A.
Ernest, Roy Alfred,	*Sycamore,*	Electrical Eng'g.
Erwin, Charles Fay,	*Harbor Springs, Mich.,*	Gen. Sci.
Eustice, Edward LeMotte,	*Newton, Ia.,*	Electrical Eng'g.
Eustis, Laura Mae,	*Ottawa,*	Library, L. and A.
Evans, Evan Samuel,	*Sparta, Wis.,*	Architecture.
Fairweather, Charles Arthur,	*Hoodville,*	Civil Eng'g.
Farnsworth, George Lester,	*Ottawa,*	Civil Eng'g.

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Fox, James Reuben,	*Rockford,*	Electrical Eng'g.
Franceway, Margaret,	*Granville,*	General, L. and A.
Fuller, Frank David,	*Elgin,*	Civil Eng'g.
Funk, Frank Floyd,	*Ottawa,*	Agriculture.
Gallaher, George Puffer,	*Mt. Palatine,*	General, L. and A.
Gantz, Mary Louisa,	*Oregon,*	General, L. and A.
Gardiner, Cecil Merritt,	*Champaign,*	Prep. to Medicine.
Garwood, Frank Sanders,	*Stonington,*	Agriculture.
Garwood, Herman Edwin,	*Stonington,*	Agriculture.
Garwood, Janet,	*Augusta,*	General Science.
Gilchrist, Mary,	*Davenport, Ia.,*	General Science.
Gilkerson, Thomas John,	*Urbana,*	Agriculture.
Gill, Frederick Williams,	*Belvidere,*	Chemistry,
Ginzel, Leo Arthur,	*Trenton,*	Civil Eng'g.
Glenn, Elenor Mae,	*Champaign,*	Library, L. and A.
Godeke, Harry Fred,	*Olney,*	Electrical Eng'g.
Goodrich, Charles Eugene,	*Belvidere,*	Mechanical Eng'g.
Goodspeed, Wilbur Fisk,	*Tuscola,*	Agriculture.
Gore, Adolph,	*Marion,*	General, L. and A.
Graff, Elizabeth,	*Champaign,*	General, L. and A.
Greene, Hibbard Spencer,	*Lisle,*	Electrical Eng'g.
Greep, Orpha Etta,	*Galva,*	Household Science.
Gulick, Byron Allen,	*Champaign,*	Prep. to Medicine.
Hale, Arthur Aldrich,	*Chicago,*	Mechanical Eng'g.
Hall, Frank Adolphus,	*Peoria,*	General, L. and A.
Hancock, Everett Herschel,	*Newman,*	General, L. and A.
Hannum, Myrtle Neta,	*Decatur,*	Math. and Astronomy.
Hanson, Charles Pearl,	*Fifer,*	Architectural Eng'g.
Harney, John Matthew,	*Joliet,*	Electrical Eng'g.
Harper, Homer Williamson,	*Urbana,*	Architecture.
Hart, Anna Mary,	*Wheaton,*	General, L. and A.
Hart, Mabel Baldwin,	*Champaign,*	Art and Design.
Haviland, Altha,	*Addison, Ia.,*	Library, L. and A.
Hawley, Clarence Ernest,	*Mendota,*	Civil Engineering.
Hazen, Howard Spencer, Jr.,	*LaSalle,*	Architectural Eng'g.
Headen, Mary Frances,	*Shelbyville,*	General, L. and A.
Heald, Charles Hobart,	*Canton,*	Architecture.
Healy, William James,	*Rochelle,*	General, L. and A.
Hedges, Joseph Logan,	*Urbana,*	Electrical Eng'g.
Henderson, Charles Elliott,	*Gerlaw,*	Civil Engineering.

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Herschberger, Harold,	*Peoria,*	Civil Engineering.
Higinbotham, Nathan Jay,	*Arcola,*	Prep. to Medicine.
Hill, Ida Myrtle,	*Champaign,*	General, L. and A.
Hill, Mary Bluebell,	*Champaign,*	Art and Design.
Hillman, Frank William,	*Chicago,*	Civil Engineering.
Hinman, Glidden,	*Dundee,*	Chemistry.
Hoadley, Josephine,	*Rochelle,*	Library, L. and A.
Hodgson, Olive Mae,	*Prentice,*	Library, L. and A.
Holderman, Harriet,	*Morris,*	Library, L. and A.
Holstman, Frederick Albert,	*Peoria,*	Civil Engineering.
Hook, Henry Hudson,	*Vienna,*	Mechanical Eng'g.
Houser, Edith Beryl,	*Urbana,*	General, L. and A.
Howe, Alice,	*Urbana,*	Library, L. and A.
Huff, Nolan Hynson,	*Center,*	General, L. and A.
Huff, Walter William,	*Sullivan,*	Civil Engineering.
Hughes, Anna Raphael,	*Champaign,*	Music.
Hull, Bert Bronson,	*Moline,*	Civil Engineering.
Huntoon, Harry Alexander,	*Moline,*	Mechanical Eng'g.
Ingham, Ellis Foulds,	*Kewanee,*	Mechanical Eng'g.
Janssen, Otto,	*Los Angeles, Cal.,*	Architecture.
Jarman, Patience Emelyn,	*Elmwood,*	Music.
Jeter, Roy Woods,	*Yorkville,*	General, L. and A.
Johnson, Frank Peters,	*Chicago,*	Mechanical Eng'g.
Johnson, Preston King,	*Champaign,*	General, L. and A.
Jones, Truman N,	*Aurora,*	Mechanical Eng'g.
Kasten, Frederick William,	*Dolton Station,*	Chemistry.
Keefe, Anastasia Louise,	*Galesburg,*	General, L. and A.
Keeler, Lawrence Swasey,	*Belvidere,*	Civil Engineering.
Kiekintveld, Sadie Jeannette,	*Holland, Mich.,*	Library, L. and A.
Kingsbury, Herman Buchanan,	*Pinkstaff,*	Prep. to Medicine.
Kirkwood, Arthur William,	*Chicago,*	Electrical Eng'g.
Koch, Reuben Arles,	*Mayview,*	Music.
Koehn, Martha Caroline,	*Menominee, Mich.,*	Gen., L. and A.
Kornblum, Isidor,	*Tuscola,*	Electrical Eng'g.
Krippner, John,	*Champaign,*	Civil Engineering.
Lefler, Anna Bell,	*Pontiac,*	Household Science.
Lenke, Edward Henry,	*Chicago,*	Civil Engineering.
Lindsay, Ada Emilie,	*Decatur,*	Library, L. and A.
Logan, Chester R,	*Edinburg,*	Civil Engineering.
Long, Troy Lovell,	*Morrisonville,*	General, L. and A.

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Lundahl, Arvid Luther,	*Moline,*	Mechanical Eng'g.
Lundahl, Bruce Hjalmar,	*Gibson City,*	Civil Engineering.
Lusk, John Jay,	*Quincy,*	General, L. and A.
McConaughy, Edward Leon,	*Rochelle,*	General, L. and A.
McCully, William Ashway,	*Champaign,*	Civil Engineering.
McGinnis, Lulu Rose,	*Dawson,*	General, L. and A.
McIntyre, James Franklin,	*Farmer City,*	General, L. and A.
McLaughlin, Ambrose,	*Champaign,*	Architecture.
McNeill, Roscoe Plant,	*Greenville,*	General, L. and A.
Madansky, Paul,	*Fairfield,*	Civil Engineering.
Manspeaker, Bertha Harding,	*Champaign,*	General, L. and A.
Marquiss, Franklin Wales,	*Bloomington,*	Mechanical Eng'g.
Martin, William George,	*Champaign,*	General, L. and A.
Martin, William Roy,	*Newton, Ia.,*	Architecture.
Mather, Donald Edward,	*Plainfield,*	Civil Engineering.
Mather, Myra Abbie,	*Joliet,*	General, L. and A.
Mather, Rose Margaret,	*Plainfield,*	General, L. and A.
Matousek, Joseph,	*Chicago,*	Civil Engineering.
Mautz, George John,	*Pana,*	Prep. to Medicine.
Maxfield, Leroy Haskell,	*Godfrey,*	Electrical Eng'g.
Maxwell, Clinton Latshaw,	*Champaign,*	Chemistry.
Maxwell, John William,	*LaGrange,*	Architecture.
May, David Thorpe,	*Prophetstown,*	Mech. Eng'g.
Meeker, Clyde Earl,	*Delavan,*	Electrical Eng'g.
Meharry, George Francis,	*Tolono,*	General, L. and A.
Miller, Carl Frederic,	*Bloomfield,*	Architecture.
Miller, Charles Joseph,	*Peru,*	General, L. and A.
Miller, Clarence,	*Lincoln,*	Prep. to Medicine.
Miller, Fred Charles,	*Peoria,*	Architecture.
Miller, Herbert Scholes,	*Canton,*	Architectural Eng'g.
Miller, Leonard Joseph,	*Sterling,*	Mechanical Eng'g.
Miller, Nellie Augusta,	*Urbana,*	Household Science.
Miller, Trenna June,	*Decatur,*	Chem. and Physics.
Mitchell, Harry Scholey,	*Rock Island,*	Mechanical Eng'g.
Monier, James Henry,	*Champaign,*	Civil Engineering.
Montooth, Charles Stuart,	*Toulon,*	General, L. and A.
Morey, Henry Hiram,	*Greenville,*	General, L. and A.
Morgan, George Walker,	*Urbana,*	Civil Engineering.
Morgan, Isabelle Alice,	*Davenport, Ia.,*	Household Sci.
Morris, Sidney Dealey,	*Chicago,*	Electrical Eng'g.

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Moss, Haven Haanel,	*Urbana,*	General Science.
Moss, Mary Frances,	*Urbana,*	Classical.
Moss, Myrtle Lucy,	*Champaign,*	General, L. and A.
Mountjoy, Oscar Francis,	*Atlanta,*	Agriculture.
Müeller, Walter Hermann,	*Chicago,*	Electrical Eng'g.
Murchison, Rob Roy,	*Kewanee,*	Architectural Eng'g.
Myers, Wissie Etha,	*Champaign,*	General, L. and A.
Naylor, Helen Andromache,	*Mason City,*	General, L. and A.
Newcomb, Jessie Ruth,	*Champaign,*	General, L. and A.
Nichols, Emily Lavinia,	*Chicago,*	Library, L. and A.
O'Connell, Charles Slade,	*Elgin,*	Civil Engineering.
Orndorff, Robert Brawner,	*Delavan,*	General, L. and A.
Ostrander, Fred Earl,	*Galesburg,*	Civil Engineering.
Pahmeyer, Fred Oscar,	*Decatur,*	Mechanical Eng'g.
Parish, Dwight Armistead,	*Springfield,*	Civil Engineering.
Parker, Walter Haniman,	*Peoria,*	Architecture.
Parshall, Vernon Vincent,	*Grand Ridge,*	General, L. and A.
Pearson, John Winthrop,	*Oak Park,*	Mechanical Eng'g.
Peck, Reba Myrtle,	*Lexington,*	General, L. and A.
Peglow, Fred George,	*Chicago,*	Civil Engineering.
Perry, Alphonso Lorenzo,	*Cornell,*	Mechanical Eng'g.
Perry, Walter Oliver,	*Cornell,*	Mechanical Eng'g.
Pierce, Clarence Raymond,	*Elgin,*	Electrical Eng'g.
Pierce, Ralph Allen,	*Elgin,*	Electrical Eng'g.
Piggott, Edward John, Jr.,	*Chicago,*	Mechanical Eng'g.
Pike, Claude Othello,	*Sycamore,*	Chemistry.
Plummer, Childs Preston,	*Biggsville,*	Prep. to Medicine.
Pope, Flora Lutitia,	*DuQuoin,*	Library, L. and A.
Post, Celia Jeannette,	*Decatur,*	Library, L. and A.
Post, Lillian Marie,	*Decatur,*	Library, L. and A.
Powell, Jesse Roy,	*Streator,*	Chemistry and Eng'g.
Purdunn, George Gould,	*Marshall,*	Mechanical Eng'g.
Randall, Frank Alfred,	*Cambridge,*	Civil Engineering.
Rapp, Charles Edward,	*Jacksonville,*	Civil Engineering.
Ray, Howard Alden,	*Libertyville,*	Mechanical Eng'g.
Reid, Wilfred Ellis,	*Lacota, Mich.,*	Architecture.
Rein, Lester Edward,	*Chicago,*	Civil Engineering.
Renich, Edward Alexander,	*Woodstock,*	Prep. to Medicine.
Renner, Edwin Theodore,	*Lanark,*	Civil Engineering.
Richeson, Virginia Campbell,	*East St. Louis,*	Household Sci.
Robb, Joseph Myron,	*Abingdon,*	Chemistry.

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Roberts, Kathleen Alice,	*Champaign,*	General, L. and A.
Roberts, Miriam Ellen,	*Ottawa,*	General, L. and A.
Roberts, Ralph Ousley,	*Keokuk, Ia.,*	Architecture.
Robinson, Candace Ione,	*Granville,*	General, L. and A.
Root, Ralph Waldo,	*Galva,*	General, L. and A.
Rose, Cameron Alfred,	*Oak Park,*	Prep. to Medicine.
Rose, Webster Barclay,	*Windsor,*	General, L. and A.
Roy, Archie Bertrand,	*Harvey,*	Math. and Physics.
Roy, Howard Meek,	*Anna,*	Civil Engineering.
Ruskamp, William Henry,	*Quincy,*	Electrical Eng'g.
Rust, Louise,	*Cleveland, O.,*	Library, L. and A.
Saliba, Habeeb Thomas,	*Cairo,*	General, L. and A.
Salyers, John Oswell,	*Monticello,*	General Science.
Sawyer, Fred Scott,	*Chicago,*	Civil Engineering.
Scherer, Frank Oliver Hozea,	*Olney,*	Agriculture.
Scherer, Josephine,	*Murphysboro,*	General, L. and A.
Scott, Augusta Ruby,	*Bethany,*	Library, L. and A.
Scott, Clarence George,	*Pecatonica,*	General Science.
Scudder, Charles Roland,	*Chicago,*	Agriculture.
Selmer, Jack,	*Eau Claire, Wis.,*	Civil Eng'g.
Seymour, Arthur Platt,	*Henning,*	Agriculture.
Seymour, Claude Henrickson,	*Elgin,*	Civil Engineering.
Shilton, Paul Adyman,	*Kewanee,*	Electrical Eng'g.
Shipman, Andrew Bradt,	*DeKalb,*	Mechanical Eng'g.
Shuler, Jane Elspeth,	*Davenport, Ia.,*	General, L. and A.
Siegel, Paula Augusta,	*Champaign,*	Library, L. and A.
Sims, Charles Edward,	*Lincoln,*	Civil Engineering.
Skelley, Charles Edward,	*DeKalb,*	Mechanical Eng'g.
Smail, Blanche Emily,	*Urbana,*	General, L. and A.
Smith, Edwin Raymond,	*Hope,*	General, L. and A.
Smith, Kenneth Gardner, A.B., (*Chicago Univ.*), 1896,	*Dixon,*	Mechanical Eng'g.
Smith, Robert Milton,	*Clinton,*	Civil Engineering.
Sommer, Alfred,	*Chicago,*	Mechanical Eng'g.
Soules, Eugene Earl,	*Peoria,*	Mechanical Eng'g.
Spearman, Fred Edward,	*Quincy,*	Electrical Eng'g.
Spitler, Wesley Newton,	*Mattoon,*	Electrical Eng'g.
Standiford, Frank B,	*Ladoga, Ind.,*	Civil Engineering.
Stevens, Della Alice,	*Monticello,*	General, L. and A.
Still, Iva Marguerite,	*Decatur,*	General, L. and A.
Stinson, Spencer A,	*Earl Park, Ind.,*	Civil Eng'g.

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Strain, William Francis,	*Beaver Creek,*	General, L. and A.
Sutherland, Walter Edmund,	*Chicago,*	General, L. and A.
Sype, George,	*Fairbury,*	General, L. and A.
Talbot, Roy Maxwell,	*DeKalb,*	Mechanical Eng'g.
Taylor, Ruth Beatrice,	*Champaign,*	Library, L. and A.
Thayer, William Sumner,	*Chicago,*	Electrical Eng'g.
Thomas, Joseph Neer,	*Youngstown,*	Electrical Eng'g.
Tombaugh, Raymond Standley,	*Waukegan,*	Electrical Eng'g.
Tonney, George Edward,	*Flora,*	Civil Engineering.
Townsend, Rolla Edward,	*Marion,*	Electrical Eng'g.
Trams, Theodore Herman,	*Champaign,*	Civil Engineering.
Triebel, Albert Fred,	*Peoria,*	Architectural Eng'g.
Trotter, Jessie Elizabeth,	*Champaign,*	Music.
Turell, Vera,	*Champaign,*	General, L. and A.
Upton, Grace Harley,	*Rochelle,*	General, L. and A.
Upton, Mabel E,	*Rochelle,*	Household Science.
VanPetten, Albert Alexander,	*Elmwood,*	Electrical Eng'g.
Varnes, Emma May,	*Farmington,*	Household Science.
Voss, Sophie Mary,	*Champaign,*	Music.
Wagenseil, Edgar White,	*Port Huron, Mich.,*	Elec. Eng'g.
Wagy, Alva Leon,	*Champaign,*	Mechanical Eng'g.
Ward, Harry Amos,	*Galesburg,*	Architectural Eng'g.
Warder, Laura Belle,	*Marion,*	General, L. and A.
Warder, Walter Bain,	*Cairo,*	Latin and Mod. Lang.
Warner, William Herbert,	*Dixon,*	Civil Engineering.
Warnock, Arthur Ray,	*Mason City,*	Classical.
Watrous, Chris Beach,	*Hampshire,*	Electrical Eng'g.
Webber, Sue Elizabeth,	*Urbana,*	Music.
Weeks, Harry William,	*Peoria,*	Electrical Eng'g.
Weinberger, Samuel,	*Hawthorne,*	Electrical Eng'g.
Wetzel, Nellie,	*Stonington,*	General, L. and A.
Wilson, Charles Gorham,	*Marengo,*	General, L. and A.
Wilt, Alva Lewis,	*Lake City,*	Philosophy.
Winders, Frank Rae,	*Urbana,*	Electrical Eng'g.
Wittlinger, Emma Marie,	*Decatur,*	General, L. and A.
Wood, Harry Chase,	*Mt. Pulaski,*	Mechanical Eng'g.
Woodward, Clayton Emery,	*Grand Ridge,*	General Science.
Wright, Herman Festues,	*Vienna,*	Agriculture.
Young, Ripley Marion,	*Levings,*	General, L. and A.
Zelenka, Joseph James,	*Savanna,*	Electrical Eng'g.

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SPECIALS

Albrecht, Harry Woolf,	*Delavan,*	Mechanical Eng'g.
Anders, Edwin,	*Newark,*	General, L. and A.
Anderson, Elsie G,	*Macon,*	Music.
Anderson, Florence Marion,	*Mahomet,*	Music.
Anicker, George Albert,	*Peoria,*	Agriculture.
Armstrong, Alice Jane,	*Champaign,*	Music.
Armstrong, Charles Edward,	*Mound City,*	Electrical Eng'g.
Arnold, Forest Jackson,	*Bloomington,*	Electrical Eng'g.
Ashmore, James Newton,	*Bethany,*	General, L. and A.
Atkinson, Jesse Campbell,	*Zion City,*	Civil Engineering.
Azbill, Ethel Wolcott,	*Indianapolis, Ind.,*	Library.
Barlow, Lulu,	*Robinson,*	Art and Design.
Beck, Charles,	*Harvey,*	Mechanical Eng'g.
Berry, Charles Stephen,	*Rochelle,*	Electrical Eng'g.
Black, Lucian Robert,	*Champaign,*	General, L. and A.
Blair, Franklin Irving,	*Compton,*	Civil Engineering.
Bloompot, Henry,	*Pekin,*	Civil Engineering.
Body, Elmer Isaac,	*Morrison,*	Electrical Eng'g.
Boers, Otto William,	*Lacon,*	Electrical Eng'g.
Boggs, Mrs. Grace Lindley,	*Urbana,*	Art and Design.
Borne, Celia Alice,	*Milmine,*	Chemistry.
Boyle, John Marshall,	*Roberts,*	General, L. and A.
Bradbury, William Carson,	*Decatur,*	Electrical Eng'g.
Brayton, Ernest Grigsby,	*Mt. Morris,*	Art and Design.
Briscoe, Ita, B.L. (*Oxford Coll.*), 1896,	*Kansas,*	General, L. and A.
Brooks, Ernest Alfred,	*Dixon,*	Electrical Eng'g.
*Brown, Millard Mayo,	*Bement,*	General, L. and A.
Bull, Coates Preston, B.Agr. (*Univ. of Minn.*), 1901.	*Champaign,*	Music.
Bundy, Herman Winford,	*Hayes,*	General Science.
Burkam, John,	*Decatur,*	Mechanical Eng'g.
Burnap, Sherbern Mathews,	*Clear Lake,*	Agriculture.
Busey, Marietta Ruth, A.B. (*Vassar Coll.*), 1899,	*Urbana,*	Household Science.
Campbell, Homer W,	*Pecatonica,*	Civil Engineering.
Carr, Charles Clement,	*Avon,*	Electrical Eng'g.
Carter, Opal Gertrude,	*Champaign,*	General Science.
Chenoweth, Lloyd Albert,	*Decatur,*	Civil Engineering.

*Deceased.

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Chestnut, Jessie May,	*New Holland,*	Music.
Cobine, Elizabeth Temple,	*St. Louis, Mo.,*	Gen., L. and A.
Cockayne, Ava,	*Homer,*	Music.
Coffeen, Amy, B.L., 1889,	*Champaign,*	Music.
Cohen, Bert,	*Chicago,*	Mechanical Eng'g.
Coleman, Clyde Bestor,	*New Windsor,*	Agriculture.
Conley, John Edward,	*Arcola,*	Civil Engineering.
Corbin, Henry,	*Carbon Cliff,*	Electrical Eng'g.
Coulson, Charles Sidney,	*LaHarpe,*	General, L. and A.
Cox, Myra Charlotte,	*Milwaukee, Wis.,*	Art and Design.
Craig, James Vincent,	*Lacon,*	Civil Engineering.
Cramer, Bessie C,	*Champaign,*	Music.
Cramer, Jessie C,	*Champaign,*	Music.
Crane, Fred Randall, B.S., (*Mich. Ag'l Coll.*), 1899,	*Urbana,*	Music.
Crawford, George Barnes,	*Champaign,*	Music.
Crawford, Mabel Melissa,	*Urbana,*	Library, L. and A.
Davis, David,	*New Market, N. H.,*	Agriculture.
Davis, Wilmer Esla,	*Rankin,*	General Science.
Derr, Harry Benjamin,	*Champaign,*	General Science.
Derwent, Everett Foster,	*Pecatonica,*	Civil Engineering.
Dewey, Louise Sarah, M.S., 1899,	*Urbana,*	Music.
Dexter, Maud Harriet,	*Augusta,*	General, L. and A.
Dillavou, Olive Anna,	*Champaign,*	General, L. and A.
Doellinger, Francisco Pastor,	*Buenos Aires, Arg. Rep.,*	Agr'ure.
Doll, Louis John,	*Marshall,*	Mechanical Eng'g.
Doran, Patrick Edward,	*Rochelle,*	Electrical Eng'g.
Drish, Frances,	*Mattoon,*	Art and Design.
Eisner, Maurice,	*Champaign,*	Music.
Eliot, Mabel,	*Bloomington,*	Art and Design.
Engel, Lloyd Edwin,	*Metamora,*	General, L. and A.
Fairchild, Sherman DeWitt,	*Sullivan,*	Agriculture.
Finley, Joseph Orton,	*Oneida,*	Agriculture.
Fraser, Henry Whitman,	*LaSalle,*	Mechanical Eng'g.
Fuller, Robert Otis,	*Waterman,*	Electrical Eng'g.
Gale, Frances Agnes,	*Aurora,*	General, L. and A.
Gere, Clara,	*Champaign,*	Music.
Garwood, Mabel Clare,	*Augusta,*	General, L. and A.
Gray, John,	*Elburn,*	Civil Engineering.
Gunn, Henry J,	*Mt. Palatine,*	Mechanical Eng'g.
Hall, George,	*Carterville,*	Civil Engineering.
Hanson, Mabel Irene,	*Urbana,*	Music.

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Harris, Chester Arthur,	*Lena,*	General, L. and A.
Hartmann, Dorothy Maria,	*Sidney,*	Music.
Henion, Lora Atkins,	*Champaign,*	Music.
Herriott, Ombra,	*Urbana,*	Music.
Higinbotham, Pearl,	*Champaign,*	General, L. and A.
Holderby, William Matthew,	*Cairo,*	General, L. and A.
Howard, Wallace Lawton,	*Sheffield,*	Agriculture.
Hubbart, Guy,	*Philo,*	General, L. and A.
Hyde, Rosa Kate,	*Rising,*	Music.
Irwin, Walter Sumner,	*Decatur,*	Art and Design.
Isherwood, Genevieve,	*LeClaire, Ia.,*	General, L. and A.
Jayne, Violet Delille, A.M., (*Univ. of Mich.*), 1896,	*Urbana,*	Music.
Jeffers, Mrs. Mary Elizabeth,	*Hanover,*	Music.
Johnson, Homer,	*Bloomington,*	Agriculture.
Kelley, Margaret Genevieve,	*Nauvoo,*	Art and Design.
Kendall, Pearl Strickland,	*Clinton, Ia.,*	General, L. and A.
Klinginsmith, Freelin Dunn,	*Ft. Madison, Ia.,*	Civil Eng'g.
Knowles, Gertrude,	*Moweaqua,*	Music.
Kraus, William Conrad,	*Galena,*	Mechanical Eng'g.
Kueklcke, Otto,	*Davenport, Ia.,*	Civil Engineering.
Laflin, Mary Elizabeth,	*Champaign,*	Music.
Landaker, Vivian Pauline,	*Dallas City,*	Art and Design.
Layman, Frank,	*Champaign,*	Agriculture.
Levine, Max Patrick,	*Chicago,*	Art and Design.
Lindley, Jessie Salome,	*Urbana,*	Music.
Loeffler, Katherine Armine,	*Ogden,*	Music.
Lohman, Leona Alice,	*Urbana,*	Music.
Lyle, John D,	*Sparta,*	Agriculture.
McMillan, Edward Andrew,	*Biggsville,*	Municipal Eng'g.
Mahan, Jane Mab,	*Chicago,*	General, L. and A.
Main, Josiah,	*Pittsfield,*	General Science.
Mallon, Francis Fernando,	*Warren,*	Civil Engineering.
Mather, Ralph,	*Sedalia, Mo.,*	Architecture.
Mattis, George McKinley, A.B., (*Princeton Univ.*), 1901,	*Champaign,*	Agriculture.
Mattis, Ida Leverine,	*Champaign,*	Music.
Moore, Lucy Kate,	*Pesotum,*	Music.
Moschel, Louis Conrad,	*Morton,*	General, L. and A.
Müeller, Jacob William,	*Belleville,*	Mechanical Eng'g.
Mulliken, Phoebe,	*Champaign,*	Music.

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Mykins, Perry H,	*Battle Creek, Mich.,*	Gen., L. & A.
Noble, Ernest Henry,	*Brocton,*	General, L. and A.
Nuckolls, Charles Morrison,	*Urbana,*	Mechanical Eng'g.
Oakes, Arthur Manning,	*Metropolis,*	Agriculture.
O'Connell, Nellie E,	*Champaign,*	Music.
O'Donnell, Grace Evangeline,	*Urbana,*	Music.
Olson, Blenda,	*Urbana,*	Household Science.
Outhouse, Fred Myrine,	*Lily Lake,*	General, L. and A.
Owens, Bertha Bernadine,	*Mound City,*	General, L. and A.
Parker, Jessie,	*Clinton,*	General, L. and A.
Phillips, Nelson Chancellor,	*Damascus,*	Prep. to Medicine.
Piatt, Donn,	*Monticello,*	Music.
Pittman, Charles Ernest,	*Mahomet,*	Mechanical Eng'g.
Porter, George T,	*Rock Island,*	Mechanical Eng'g.
Price, N Oma,	*Hayes,*	General, L. and A.
Ragan, Carroll Stewart,	*Neoga,*	Music.
Ratcliffe, Harry Ernest,	*Vincennes, Ind.,*	Agriculture.
Reber, Louemma,	*Freeport,*	General, L. and A.
Redding, Katherine Agnes,	*Urbana,*	Music.
Reed, Alice Elizabeth,	*Urbana,*	Art and Design.
Reyes, Julio,	*Buenos Aires, Arg. Rep.,*	Agl'ure.
Ritter, Lena Beatrice,	*Villa Grove,*	General, L. and A.
Rohrer, Charles,	*Canton,*	Electrical Eng'g.
Rothgeb, Wade Hampton,	*Wellington,*	General, L. and A.
Round, George Arminius,	*Tampico,*	Mechanical Eng'g.
Routson, Fred John,	*Toledo, Ohio,*	Civil Engineering.
Rutherford, Evah Lucinda,	*Oakland,*	Music.
Schreiber, Rudolph Ernst,	*Chicago,*	General, L. and A.
Scott, Etha Eliza,	*Bethany,*	Music.
Seibel, Karl Bird,	*Princeton,*	General, L. and A.
Selicovitz, Rosa,	*Champaign,*	Music.
Shelton, Mrs. Wanda Schember,	*Loami,*	Music.
Shinker, Lillian Ruth,	*Ludlow,*	Music.
Shumaker, Claude Henry,	*Tiffin, Ohio,*	Agriculture.
Smith, Arthur Albert,	*Morristown,*	General Science.
Smith, Clara Mabel,	*Cairo,*	General, L. and A.
Smith, Erasmus Edward,	*Bradford,*	General, L. and A.
Smith, Fred,	*Alexis,*	Electrical Eng'g.
Smith, Henry William,	*Arcola,*	General Science.
Smith, Walter William,	*Morristown,*	General Science.
Staples, Oren Elmer,	*Portland, Mich.,*	Music.

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Stevenson, William Henry, A.B., (*Illinois Coll.*), 1893,	*Jacksonville,*	Agriculture.
Stoner, Inez Amanda,	*Paxton,*	Art and Design.
Strubhar, Clyde Elmer,	*Washington,*	Civil Engineering.
Sutton, William D,	*Urbana,*	Art and Design.
Tennery, Redick,	*Marshall,*	Electrical Eng'g.
Thompson, Clarence,	*Warrensburg,*	Agriculture.
Trams, Albert Francis,	*Champaign,*	General, L. and A.
VanArman, Marshall Edgar,	*Joliet,*	Agriculture.
VanDervoort, Maude Eliza,	*Lexington,*	General, L. and A.
VanMeter, Mrs. Bertha Lehman,	*Yates City,*	Music.
VanMeter, Helen Jane,	*ElPaso,*	General, L. and A.
Vawter, John Terrell,	*Vawter Park, Ind.,*	Architecture.
Wade, Albert Edward,	*Decatur,*	Agriculture.
Wait, Ernest Ludden, B.S., 1901,	*Urbana,*	Chemistry.
Walcott, Saint Elmo,	*Urbana,*	Civil Engineering.
Weeks, Julius Stephen,	*Syracuse, N. Y.,*	Mech. Eng'g.
Whaite, Gertrude Burrell,	*Tolono,*	Music.
Wilcox, Charles Arthur,	*Rosemond,*	Agriculture.
Wilson, George Shirley,	*Magnolia,*	Pedagogy.
Wilson, Iva Pearle,	*Champaign,*	Music.
Wilson, John Guy,	*Gays,*	General, L. and A.
Wilson, Sue Louise,	*Rosemond,*	General Science.
Woodrow, Richard Sylvester,	*Urbana,*	Agriculture.
Woods, Riley Fassett,	*LaMoille,*	Electrical Eng'g.
Worthen, Edmund Louis,	*Warsaw,*	Agriculture.
Worthington, Addison Milton,	*South Haven, Mich.,*	Architecture.
Wray, Harriette,	*Elida,*	Library, L. and A.
Wright, Fannie Louise,	*Eckelson, N. Dak.,*	Architecture.
Wright, Ward Ellis,	*Woodstock,*	Mechanical Eng'g.
Yates, Thomas,	*Dubuque, Ia.,*	Civil Engineering.

SPECIALS IN COLLEGE OF AGRICULTURE, pp. 64, 290

Adair, James Wade,	*Tolono.*
Alford, Irving Samuel,	*Sibley.*
Allison, Harry Orson,	*Alpha.*
Anderson, George Theodore,	*Sibley.*
Anderson, Leslie Lee,	*Summer Hill.*
Angle, Ray William,	*Dakota.*
Apple, John Emerson,	*Robinson.*
Armstrong, Robert Morton,	*Milan.*

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Baldwin, Frank,	*Ipava.*
Bartholomew, Roy,	*Vermont.*
Basting, Fred,	*Yuton.*
Beal, Perry Lee,	*Reed.*
Betzelberger, George J,	*Delavan.*
Blakeslee, George Robert,	*Chicago.*
Bonner, John Gordon,	*Millburn.*
Brand, George Walter,	*Bloomington.*
Brissenden, Lewis Aaron,	*Flora.*
Bronson, Eugene Victor,	*Urbana.*
Bullock, Oakley Ames,	*Eureka.*
Burbank, Harry Fay,	*Woodstock.*
Burkhardt, Arthur Alvin,	*Sorento.*
Butler, Elmer Frank,	*Amboy.*
Callaway, Leonard Wyeth,	*Tuscola.*
Camp, Harry Howsmon,	*Harristown.*
Carmichael, Berton Eugene,	*Rochelle.*
Carrithers, Calvin Leroy,	*Washburn.*
Cary, Spencer Albert,	*Towanda.*
Cattron, Kie,	*Fairview.*
Center, Orlo Dorr,	*Grand Ridge.*
Chambers, Ralph Edward,	*Sadorus.*
Clapp, Ivan Burr,	*Grand View.*
Clarke, James William,	*Sciota.*
Clay, John Lawson,	*Galesburg.*
Conant, Thaddeus,	*Villa Ridge.*
Constant, Irwin John,	*Dawson.*
Copes, Fletcher,	*Green Valley.*
Corzine, Roy Allen,	*Stonington.*
Creamer, William Carl,	*Tolono.*
Crocker, Paul Holbrook,	*Springfield.*
Culver, Carl Albert,	*Athens.*
Dameier, Rufus Frank,	*Lena.*
Darling, Charles Edward,	*Green Valley.*
Dobson, Philip Harry,	*Cerro Gordo.*
Douglass, Orville Vaughn,	*Shirley.*
Duncan, Fred Thomas,	*Seaton.*
Evertt, Charles William,	*Harvard.*
Flagg, David Ross,	*Clarence.*
Fletcher, Marion,	*Dalton City.*
Foreman, Louie,	*Bloomington.*

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Funk, Julius Fitzwilliam,	*Bloomington.*
Gillespy, George Anson,	*Paris.*
Good, Roy C,	*Haldane.*
Greep, Theodore Willett,	*Galva.*
Griswold, Harry Elias,	*Blue Mound.*
Hardin, Thomas,	*Homer.*
Hayes, Gus Washington,	*Pleasant Plains.*
Hedges, Samuel Rice,	*Urbana.*
Henness, William Zachariah,	*Champaign.*
Hill, Arthur Howard,	*Dundee.*
Hinkley, Henry Otis,	*DuBois.*
Issert, Jules Philip,	*Manteno.*
Johnston, Ora Birney,	*Lexington.*
Jones, James Henry,	*ElDara.*
Kidder, Albert Franklin,	*Farmington.*
Kincaid, James Earle,	*Athens.*
Kinney, Elmer Henry,	*Collison.*
Kuster, Arthur,	*Mahomet.*
Ladage, Fred William,	*Woodside.*
Large, Harry,	*Millersville.*
LeFever, George Winans,	*Fithian.*
Leonard, Herman Thomas,	*Decatur.*
Leonard, Lester Dayton,	*Rochelle.*
Lingenfelter, Lee Everett,	*Mt. Carmel.*
Logan, Clarence Chester,	*Flora.*
Lucas, Morgan,	*Easton.*
McCarty, William Frederick,	*Tuscola.*
McClure, Ara Morgan,	*Manhattan.*
McKee, Jasper Bourdette,	*Sheffield.*
McKeighan, James Leslie,	*Yates City.*
Mann, Charles Judson,	*Gilman.*
Marks, David Scott,	*Abingdon.*
Massie, Stuart Myron,	*Colusa.*
Meharry, Edwin Thomas,	*Tolono.*
Michael, Chester Andrew,	*Glenburn.*
Mills, James Bagwell,	*Clay City.*
Miner, Aaron W,	*Adair.*
Miner, James Howard,	*Adair.*
Minto, David Harold,	*Loon Lake.*
Mitchell, Maurice Finley,	*Oneida.*
Mobley, William Dean,	*Mt. Sterling.*

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Moore, Frank Cutts,	*Polo.*
Moreno, Ruben,	*San Juan, Argentine Republic.*
Musgrove, Fred G,	*Vermont.*
Ocock, Clarence Henry,	*Marengo.*
Ocock, Charles Albert,	*Marengo.*
O'Neal, Fred Raggan,	*Arnold.*
Peddicord, Raymond Nelson,	*Marseilles.*
Phares, Lloyd Abner,	*Clinton.*
Pittman, Elmer Deborous,	*Mahomet.*
Pitts, Ralph Lowell,	*McLean.*
Porter, Edward Alexander,	*Momence.*
Rankin, William Jacob Royal,	*White Heath.*
Record, Charles Edward,	*Farmington.*
Rector, John Fred,	*Smithfield.*
Roberts, Claudius William,	*Arcola.*
Rothgeb, Claude James,	*Milford.*
Scott, Gilbert Wilson,	*Franklin.*
Shaw, Guy Loren,	*Summer Hill.*
Shaw, Lloyd Blake,	*Summer Hill.*
Shepherd, Fred Allen,	*Fairmount.*
Snyder, William Noble,	*Moweaqua.*
Southwick, Frank Eugene,	*Odell.*
Spence, William D,	*Fairbury.*
Spitler, John Clyde,	*Montrose.*
Stallcup, Charlie,	*Monticello.*
Stebbins, Roy,	*Summer Hill.*
Stitt, Harry Wiley,	*Alpha.*
Swayze, Fred Eugene,	*Salem.*
Taylor, Albert Berry,	*Normal.*
Tenney, Walter Eugene,	*Bloomington.*
Thompson, James Arthur,	*Layton.*
Thompson, Willis Eddy,	*Erie.*
Varner, Willie T,	*Indianola.*
Watson, Clarence Charles,	*Woodstock.*
Webb, Dwight Earl,	*Mound.*
Webster, Edwin Gordon,	*Greenwood.*
Wellman, William August,	*Golconda.*
White, Earl Archibald,	*Loon Lake.*
White, Jesse H,	*Princeton.*
White, William Earnest,	*Millburn.*

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Whiteford, Milton,	*Manito.*
Wing, DeWitt Cosgrove,	*Boonville.*
Winterberger, Ralph,	*Junction.*
Wise, Lewis W,	*Cerro Gordo.*
Wisegarver, William Hetrick,	*Savoy.*
Woodin, Dennis Earl,	*Polo.*
Woodin, Jason,	*Polo.*
Ziegler, Wilfred Ivanhoe,	*Clinton.*

SPECIALS IN HOUSEHOLD SCIENCE

Bond, Luella Mabel,	*Champaign.*
Creamer, Lida Espey,	*Tolono.*
Dunlap, Nora Betz,	*Savoy.*
Kidder, Annie Sirdinia,	*Farmington.*
Lemon, Mattie Agnes,	*Urbana.*
Risser, Ruby Blanche,	*Blandinsville.*
Turner, Ida Ella,	*Butler.*
VanMeter, Anna Roberta,	*El Paso.*
Wollaver, Jennie Ella,	*Rockford.*

SUMMER TERM.

Allen, Mae Louise,	*Champaign.*
Anderson, Almor Severin,	*LaHarpe.*
Applegate, Alpheus Miller,	*Atlanta.*
Armstrong, James Ellis, A.B., 1897,	*Chillicothe.*
Arnold, Forest Jackson,	*Bloomington.*
Aubere, Pearl Laura,	*Havana.*
Azbill, Ethel Wolcott,	*Indianapolis, Ind.*
Baber, Earl Armetige,	*Valparaiso, Chili.*
Baird, Walter Hayes,	*Leroy.*
Barnes, Andrew Jackson,	*Divernon.*
Barnes, Carrie,	*Pawnee.*
Barth, Mary Elizabeth,	*Decatur.*
Beaty, Francis Marion,	*Marion.*
Bell, Thomas Allen,	*Seymour.*
Bigelow, Mary Constance, A.B., 1899,	*Champaign.*
Black, Mary Ellice,	*Avon.*
Blake, Edward Lewis,	*Carbondale.*
Boggess, Arthur Clinton,	*Catlin.*
Booker, Helen Ethel,	*Champaign.*

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Borton, Byron Sarver,	*DeLand.*
Bowlby, Emma Zoe,	*Maroa.*
Breitstadt, John Henry,	*Quincy.*
Briscoe, Ita, B.L. (*Oxford Coll.*), 1896,	*Kansas.*
Briscoe, Robert Walker,	*Kansas.*
Brode, Lawrence Partridge,	*Urbana.*
Brown, Lewis,	*Rockford.*
Brown, Samuel Addison,	*Long View.*
Brundage, Martin Denman,	*Malta.*
Buell, Edward Thomas,	*Chicago.*
Buerkin, Emma,	*Quincy.*
Burgess, Fred Henry,	*Monticello.*
Burgner, Olive Frances,	*Champaign.*
Calhoun, Henrietta Anne, B.S., 1901.	*Champaign.*
Campbell, Elmer Cary, A.B. (*Harvard Univ.*), 1895,	*St. Louis, Mo.*
Carr, Angie Lotta,	*Farmer City.*
Cass, Sherman,	*Cerro Gordo.*
Chapman, Daniel George,	*Vienna.*
Chisholm, Estella Forth,	*Champaign.*
Clark, Emma Alberta,	*Urbana.*
Clark, Thomas Aquilla,	*Urbana.*
Coggeshall, Mrs. Grace Greenwood,	*Ridgefarm.*
Coggeshall, Lester B,	*Ridgefarm.*
Conard, Clyde,	*Monticello.*
Condit, Charles,	*Rantoul.*
Coughlin, Hannah Ella,	*Tolono.*
Craigmile, Alexander Homer,	*Gifford.*
Crain, Mrs. Mary,	*Urbana.*
Crawford, Mabel Melissa,	*Champaign.*
Cresap, Trella Jane,	*Urbana*
Crosby, Clifford,	*Kewanee.*
Crosthwait, George Ashley,	*Urbana.*
Curry, Grace Greenwood,	*St. Joseph.*
Curtiss, Albert Root,	*Champaign.*
Daugherty, Anna Elizabeth,	*Sullivan.*
Davis, Wilmer Esla,	*Rankin.*
Dawson, Charles Hubbard,	*Bement.*
DeMotte, Ruby Thorne,	*Urbana.*
Dewey, James Ansel, M.S., 1898,	*Urbana.*

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Dorris, Charles Henry, M.S. (*McKendree*), 1895,	*Collinsville.*
Dorris, William Robert, M.S. (*McKendree*), 1897,	*O'Fallon.*
Dunkin, William Van,	*Urbana.*
Ebersol, Elmer Tryon,	*Ottawa.*
Duffield, Ida Katharyn,	*Paxton.*
Dunning, William Neil,	*Chicago.*
Eckman, John Joseph,	*Wellington.*
Edwards, Otto B,	*Harrisburg.*
Eidmann, Gustav Herman,	*Mascoutah.*
Ernest, Roy Alfred,	*Sycamore.*
Fennessy, Effie Dorothea,	*Avon.*
Ferguson, James J,	*Sheldon.*
Fisher, Ida,	*Bement.*
Fiske, Clarence Wilson,	*Sterling.*
Forbes, Bertha Mary,	*Urbana.*
Frazey, Nellie May, A.B., 1901,	*Urbana.*
Frye, Calhoun Lynn,	*Peoria.*
Fullenwider, Thomas Irwin,	*Mechanicsburg.*
Fullerton, Hugh Regnier,	*Havana.*
Gayman, Myrtle,	*Champaign.*
Gilbert, John Philo,	*Mt. Vernon.*
Gilbreath, Frank Able, A.B. (*Austin Coll.*), 1900,	*Loda.*
Gilkerson, Aletha,	*Urbana.*
Gooch, Mrs. Ethel Kelley,	*Gibson City.*
Gossman, Frank Louis,	*Philo.*
Grandey, Charles William,	*Clarence.*
Gregory, Walter Herbert,	*Pleak.*
Gross, William Lawrence,	*Mt. Pulaski.*
Hall, Arthur Raymond, LL.B., 1901.	*East Lynn.*
Hall, Quincy Allen,	*Milford.*
Hampton, Ethel Alleyene,	*Macomb.*
Haney, Thomas Jefferson,	*Dawson.*
Heinzelman, Jacob Harold,	*Melvin.*
Henry, Sarah Lizzie,	*Youngstown, Ohio.*
Hewerdine, Thomas Sloan, A.B. (*Austin Coll.*), 1900,	*Fisher.*
Higdon, Mrs. Lena Biehl,	*Tuscola.*

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Higdon, William David, A.B. (*DePauw Univ.*), 1894,	*Tuscola.*
Hissong, John Logan,	*Urbana.*
Hite, Grace,	*East St. Louis.*
Hoadley, Marion Harriet,	*Streator.*
Hoffman, Ruth Crocker,	*Decatur.*
Hohnke, Robert Ernst, .	*Utica.*
Houston, Samuel,	*Joliet.*
Howell, Carrie Barnes,	*Urbana.*
Hughes, Clarence Wilbert, A.B., 1900,	*Urbana.*
Hunter, Charles Phelps,	*Newton, Ia.*
Jacobs, Henry Haden,	*Moweaqua.*
Jacobs, Manuel Joseph,	*Chicago.*
James, Harry Denning,	*Amboy.*
Jeffers, Charles Ellis,	*Tolono.*
Johnston, Mary Elizabeth,	*Maroa.*
Jones, Wallace Franklin,	*Wyoming.*
Jones, Warren,	*Whitehall.*
Kincaid, Stewart William, A.B. (*Austin Coll.*), 1899,	*Effingham.*
Kirby, Josephus,	*Dewey.*
Kise, Stella,	*Champaign.*
Knowlton, William David,	*Onarga.*
Koons, Guy Jink,	*Oakland.*
Krippner, John,	*Champaign.*
Larkin, Harvey Rude,	*Oakwood.*
Laugman, John Oscar, B.S., 1900,	*Champaign.*
Laycock, Mary Janet,	*Waverly.*
Layton, Katherine Alberta W, A.B., 1901,	*Canton.*
Lloyd, George Taylor, B.L. (*Wheaton Coll.*), 1900,	*Glen Ellyn.*
Love, Justin Jay,	*Moweaqua.*
Luke, Bessie Blanche,	*Joliet.*
McCord, Edith Rebecca,	*Arthur.*
McCue, Thomas E,	*Williamsville.*
McGinley, William,	*Moweaqua.*
Maytag, Elmer Henry,	*Newton, Ia.*
Miller, Henry Crawford, A.B. (*Austin Coll.*), 1893,	*Nokomis.*
Miller, Leonard Joseph,	*Sterling.*
Mojonnier, Timothy, B.S., 1901,	*Highland.*

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Montgomery, Irma Frances,	*Maroa.*
Morgan, Ora Sherman,	*Hampshire.*
Morgan, Stella Webster,	*Burlington, Ia.*
Morris, Minnie Ellen,	*Champaign.*
Morrison, Elbert Warren,	*Mahomet.*
Morrow, Louise,	*Rockford.*
Mount, Madison Hoge,	*Walnut Prairie.*
Mueller, Jacob William,	*Belleville.*
Nash, Rufus Cary, B.S. (*Knox Coll.*), 1900,	*Bowen.*
Nesbit, Mary Frances,	*Oakland.*
Norris, James Guy,	*Bowen.*
Nuckolls, Minnie,	*Urbana.*
Null, Samuel Franklin,	*Blandinsville.*
Olson, Anna Matilda,	*Weldon.*
Olson, John Edgar,	*Weldon.*
Otwell, Allen Meade, M.S., 1901,	*Plainview.*
Park, William Mansfield,	*Urbana.*
Perrin, George Gulliver,	*LaHarpe.*
Pierce, Mrs. Sarah Elizabeth,	*Havana.*
Piper, Ellsworth Elmer,	*Chicago.*
Polk, John Luther,	*Champaign.*
Power, Margaret,	*Pontiac.*
Price, Hugh Mitchel,	*Urbana.*
Ray, Harold Adair,	*Champaign.*
Reecher, Samuel E,	*Potomac.*
Reecher, Mrs. Samuel,	*Potomac.*
Ricker, Ella Virginia,	*Baltimore, Md.*
Riley, Anna Bethiar,	*Urbana.*
Roberts, Louise Madeline,	*Decatur.*
Rodgers, Lillian,	*Homer.*
Rogers, Anna Eliza,	*Mt. Vernon.*
Royse, Lucy Ellen,	*Cisco.*
Sheldon, Victor Lorenzo,	*Taylorville.*
Shelton, Addison M,	*Loami.*
Sides, Aimee May,	*Champaign.*
Sloan, William Finlay,	*Bowen.*
Slocum, Mary Jane,	*Loda.*
Smail, Blanche Emily,	*Urbana.*
Smith, Charles Henry,	*Metamora.*
Smith, Simeon,	*Barry.*

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Smith, William Walter, A.B., 1900,	*St. Louis, Mo.*
Sneeden, Arthur Elmer, A.B. (*Illinois Coll.*), 1900,	*Detroit.*
Snider, Earl Quinter,	*Cerro Gordo.*
Stanley, Otis Orien, B.S., 1901,	*Champaign.*
Staub, Joseph Aaron,	*Champaign.*
Stewart, Robert Jaquess,	*Urbana.*
Stoner, Howard G,	*Henry.*
Stutsman, Ada Helen,	*Quincy.*
Swisher, Ele,	*Wellington.*
Thornton, Grant, A.B. (*Austin Coll.*), 1899,	*Sadorus.*
Toler, William LaFayette,	*Regent.*
Truman, Edna,	*Urbana.*
Trumbull, Frederick Marsh,	*Stillman Valley.*
Tull, Effie May, A.B., 1901,	*Farmer City.*
Turner, Dollie Irene,	*Redmon.*
Vines, Edgar James,	*Hoopeston.*
Vollborn, Albert Lawrence, A.B. (*Austin Coll.*), 1900,	*Broadlands.*
Waldorf, Arthur Louis,	*Mendota.*
Walker, George S,	*Ambrose.*
Warner, Andrew,	*Channahon.*
Watts, Charles Holladay,	*Philo.*
Welles, Winthrop Selden, B. S., 1901,	*Urbana.*
Whelpley, Cecilia,	*Cobden.*
White, Albert Emery,	*Blackstone.*
White, Lena Lee,	*Urbana.*
Willard, Harry Dray,	*Winchester.*
Willis, Clifford, B.S., 1900,	*Champaign.*
Wise, James Thompson,	*Champaign.*
Woodcock, Harriette Elizabeth,	*Champaign.*
Woodmansee, Ralph Collum,	*Champaign.*
Wright, George Hiram,	*Philo.*
Wright, Ward Ellis,	*Woodstock.*
Yunk, Nellie,	*Sandoval.*

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COLLEGE OF LAW.

Third Year

Boggs, Harry Hurd, A.B., (*Knox Coll.*) 1899,	*Galesburg.*
Boggs, Oliver Carter,	*Urbana.*
Boyer, Harry Bernard,	*Altamont.*
Braden, John Henry,	*Champaign.*
Cairns, David Gemmell,	*Troy Grove.*
Fuller, Irwin Lee,	*Peoria.*
Garrett, Richard Pratt,	*Delavan.*
Hetherington, Benjamin William,	*La Salle.*
Hughes, Samuel Kelso,	*Champaign.*
Jeffers, Stephen Rowan,	*Hanover.*
Jones, Guy Raymond,	*Tuscola.*
Jones, Henry Leonard,	*Delavan.*
King, Wesley Edward, A.B., 1897,	*Champaign.*
Kingsbury, James Thompson, A.B., 1899,	*Pinkstaff.*
Lego, Lulu Mackintosh,	*Champaign.*
Martin, Robert William, A.B., 1901,	*Wilmington.*
Miller, Thomas Henry,	*Macomb.*
Moore, George Henry,	*Tolono.*
Sheldon, Carl Edmunds, A.B., 1899,	*Sterling.*
Stern, Nathan,	*Champaign.*
Stewart, William Bowen,	*Mason City.*
Switzer, Robert Mortimer, A.B. (*Knox Coll.*), 1899,	*Galesburg.*
Woods, William Francis, A.B., 1900,	*Urbana.*
Wyne, Ervin Evermont,	*Macomb.*

Second Year

Barrett, Charles Vincent,	*Chicago.*
Bell, Oscar Clifford,	*Biggsville.*
Biossat, Harry Armand,	*Chicago.*
Birdzell, Luther Earle,	*Champaign.*
Carson, Francis Thomas,	*Urbana.*
Clock, Sherwood Alonzo,	*Geneva, Ia.*
Colp, Leonard Allen,	*Carterville.*
Davis, Horatio S,	*Versailles.*
Enochs, Delbert Riner, A.B., 1898,	*Champaign.*
Gavin, John Francis,	*Chicago.*
Grove, Rolla Burdette,	*Ottawa.*
Hartline, Herman Eugene,	*Anna.*

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Hauter, Andrew Edgar,	*Tiskilwa.*
Larson, Nels Alfred,	*Moline.*
Lowenthal, Fred, A.B., 1901,	*Chicago.*
McIlvaine, Brown Ervin,	*Tuscola.*
Martin, Grace E,	*Champaign.*
Martin, James Walter, Jr.,	*Wilmington.*
Mathews, Clyde Milton,	*Urbana.*
Pettyjohn, James William,	*Farmington.*
Pollard, Charles Robert,	*Delphi, Ind.*
Reniff, Ernest Chamberlain,	*Amboy.*
Rhea, Frank Hiett, A.B. (*Illinois Wesleyan Univ.*), 1898,	*Bloomington.*
Shepherd, Homer,	*Lovington.*
Stahl, Garland,	*Elkhart.*
Stipes, Royal Arthur,	*Champaign.*
Stone, Clyde Ernest,	*Urbana.*
Stone, Hal Marot,	*Mason City.*
Ward, Robert Russell,	*Benton.*
Williams, Walter Winslow,	*Herrin.*

First Year

Bailey, Donald Herbert, A.B., 1901,	*Clinton.*
Beall, Edmund Harris,	*Alton.*
Beckman, John Philip,	*Clayton.*
Bopp, William George,	*Chicago.*
Briggle, Charles Guy,	*Rushville.*
Bundy, Ralph Parmer,	*Zionsville, Ind.*
Campbell, Ashton Ellsworth, A.B., 1901,	*Champaign.*
Clark, Clinton Oliver,	*Winchester.*
Clark, Lorin,	*St. Joseph.*
Coen, Homer Clarence,	*Olney.*
Cox, Manford E,	*Robinson.*
Dewey, Sidney Dale,	*Triumph.*
Edwards, Ralph Owen,	*Belleflower.*
Ferguson, Charles L,	*Mendota.*
Glick, Himan Richard,	*Champaign.*
Gray, Bartlett Stephen,	*Jacksonville.*
Hexter, Eli,	*Ashland.*
Hunt, George Warren,	*Granville.*
Jackson, William Gauss,	*Vienna.*
Jay, Harry Byron,	*Plano.*
Kaeser, William George,	*Highland.*

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Kamm, Jacob William,	*Atwood.*
Kershaw, LeRoy,	*Elmwood.*
Kinslow, Rupert,	*Galesburg.*
Koogler, Frank S,	*Champaign.*
Lindley, Walter Charles,	*Neoga.*
Lindsay, Frank Merrill,	*Decatur.*
McKinley, George Harvey, Jr.,	*Moline.*
Medill, William Anthony,	*Milan.*
Morris, Charles Myers,	*Rantoul.*
Nelson, Bertram Clyde,	*Champaign.*
Newman, Allan Andrew,	*Griggsville.*
Newton, Fred Earle, A.M., 1901,	*Onarga.*
Northcott, Nathaniel Dresser,	*Greenville.*
Perrigo, Lyle Donovan,	*Urbana.*
Powers, Frank Marion,	*Streator.,*
Prettyman, William Schenck,	*Pekin.*
Saunders, Thomas Earle,	*Ridgefarm.*
Stevenson, Ralph Dodds, A.B. (Knox *Coll.*), 1900,	*Galesburg.*
Tinkham, Ralph Darrell,	*Kirkwood.*
Tripp, Harold Frank,	*Quincy.*
Tuthill, Lewis Butler,	*Anna.*
Vickrage, Richard Percival,	*Pana.*
Western, Irving Mark,	*Dundee.*

SPECIALS

Allen, John Newell,	*Hoopeston.*
Franklin, Dean,	*Macomb.*
Kearney, Harry Corwin,	*Lovington.*
Keith, Cloyd Elias,	*Peoria.*
Kellogg, Howard Day,	*Peoria.*
Kyte, John Felix,	*Milan.*
Lacy, Robert Wilber,	*Sullivan.*
Leaverton, Jae Ernest.	*Danville.*
Mell, John Deloss,	*San Jose.*
Mulliken, Albert Danforth, LL.B., 1900,	*Champaign.*
Ogden, Charles Lewis,	*Cameron.*
Parker, Calton William,	*Champaign.*
Schumacher, Henry Theodore,	*La Rose.*
Semmelroth, August,	*Belleville.*
Steely, Robert Wallace,	*Danville*
VanDevort, Paul Raymond,	*Tiskilwa.*

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COLLEGE OF MEDICINE.

(COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO.)

SENIOR CLASS

Aaron, William Herbert, *Big Neck.*
Albright, Jacob Leonard, *Lena.*
Aldrich, Frederick Herrick, *Morton, Minn.*
Arnold, Byron Jonathan, A.B. (*Fisk Univ.*), 1896; M.D. (*Meharry Medical Coll.*), 1899, *Jefferson, Texas.*
Asbury, Joseph Thomas, *Bowen.*
Baker, William Edward, M.D. (*Jenner Medical Coll.*), 1900, *Chicago.*
Barricelli, Giovanni, A.B., (*St. Francis Solanus Coll.*), 1898, *Chicago.*
Barron, Annie E, *Chicago.*
Bartholomew, Philip Henry, *Edgewood Park, Pa.*
Bashshur, Bashshur Elias, A.B. (*Beyrout Protestant Coll.*), 1893, *Tripoli, Syria.*
Bayer, William Henry, *Honey Creek, Wis.*
Beam, J. Albert, A.M. (*Univ. of Wooster*), 1892, *Carlton, Ohio.*
Beebe, Leslie Walter, M.D. (*Chicago Homeopathic Coll.*), 1897, *Oak Park.*
Beebe, Orville Everett, *Kankakee.*
Belknap, William Henry, M.D. (*Univ. of Mich. Homeopathic Coll.*), 1900, *Greenville, Mich.*
Benedict, Charles Chester, *Eagle Grove, Ia.*
Bennett, Louis Jerome, *Oregon, Wis.*
Bice, Clyde William, *Bouton, Ia.*
Bonine, James Gordon, B.S. (*Univ. of Mich.*), 1899; M.D. (*Jenner Medical Coll.*), 1901; M.D. (*Illinois Medical Coll.*), 1901, *Chicago.*
Borden, Frank Runcorn, Ph.G. (*Northwestern School of Pharmacy*), 1896, *Plainfield, Wis.*
Bosworth, Frederick Alfred, M.D. (*Harvey Medical Coll.*), 1901, *Chicago.*
Bothne, Erling Alfred, A.B. (*Luther Coll., Decorah, Ia.*), 1896, *Chicago.*

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Brawley, Frank Ellis, Ph.G. (*Northwestern Univ.*), 1897, *Chicago.*
Breid, Jacob, A.B. (*Avalon Coll.*), *Trenton, Mo.*
Breid, Mrs. Maria, *Trenton, Mo.*
Brittin, Ernest Herbert, *Athens.*
Brown, Ernest L. W., M. D. (*Ensworth Medical Coll.*), 1900, *Lennox, Ia.*
Brown, Josiah Scott, *Watseka.*
Brown, Roy Earle, *Washington, Ohio.*
Brownstein, Bernard, *Chicago.*
Bundy, Corydon DeKalb, *Iroquois.*
Burnham, Clarence Martin, *Watseka.*
Burns, Mrs. Elizabeth Viola, *Chicago.*
Burns, Floyd William, *St. Paul, Minn.*
Cain, Clark Leon, *Wintry, Wis.*
Campbell, Frederic Alexander, *Waverly, Ia.*
Campbell, Joseph Howard, *Danville.*
Carrico, James Huston, A.B. (*Univ. of Oregon*), 1899, *Portland, Ore.*
Carr, James G, *Chicago.*
Clarke, Harry Payne, *Cairo.*
Cleary, John Henry, *Kenosha, Wis.*
Clemons, Ezra Jay, *Aberdeen, S. Dak.*
Coates, Lintsford B., Jr., *Chicago.*
Cobb, Henry Aaron, *Ida Grove, Ia.*
Conant, Philo Bierce, *St. Joseph, Mich.*
Corcoran, Edward Augustine, *Postville, Ia.*
Cornell, J. Frank, *Lincoln, Ind.*
Crew, Eli Rich, *Waynesville, Ohio.*
Curtin, Louis Franklin, *Pulaski, Ia.*
Dalager, Norman Olaf, *Austin, Minn.*
Davis, Charles Johnston, *Waupaca, Wis.*
Davis, Edward Griffith, M.D. (*Bennett Medical Coll.*), 1900, *Chicago.*
Day, Harriet March, *Moweaqua.*
Dean, Joseph, *Madison, Wis.*
Deetken, Henry Charles, *Council Bluffs, Ia.*
Dike, Charles Eugene, *Spring Prairie, Wis.*
Dittman, George Charles, Ph.G. (*Univ. of Ill.*), 1897, *Chicago.*
Dorn, Charles Adolph, *Waterville, Minn.*

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Dumas, Delbert Frederick, *Minneapolis, Minn.*
Dvorsky, Bohumir, *Chicago.*
Egbert, Charles Lloyd, *Bolivar, Mo.*
Emerson, A. Veron, *Rochester, Minn.*
Enos, M. Manly, M.D. (*California Med. Coll.*), 1896, *Oakland, Cal.*
Everett, Henry H, *Chicago.*
Faeth, Victor Peter, *Bucyrus, Ohio.*
Farnham, Alford Jay, *Traer, Ia.*
Fay, Oliver James, B.S. (*Iowa State Coll.*), 1898, *Postville, Ia.*
Fisher, Evelyn Battelle, Ph.B. (*Iowa Coll.*), 1898, *Monroe, Ia.*
Forkin, William Patrick, *Chilton, Wis.*
French, Wilbur Maynard, *Lancaster, Mo.*
Fritch, George Ambrose, *Richwood, Ont.*
Frudenfeld, Henry H, *Sioux Falls, S. Dak.*
Fukala, Charlemagne V, *Vienna, Austria.*
Fuller, Francis Elmer, *Adrian, Mich.*
Gallagher, Robert Vincent, *Riley, Mich.*
Garrett, Emmett Amasa, *Sparland.*
Garrett, John Dempsey, A.B. (*Miami Univ.*), 1898, *Bell, Ohio.*
Gibbs, Joseph Addison, *Chicago.*
Glynn, Charles Edward, *Cambril, Ia.*
Goldblum, George Joseph, *Minneapolis, Minn.*
Goldblum, Jacob, *Minneapolis, Minn.*
Grabow, Paul Ernest, *Oak Park.*
Graham, Archie James, *Gallipolis, Ohio.*
Grant, Margaret Stough, A.B., (*Ottawa Univ.*), 1901; M.D., (*Bennett Medical Coll.*), 1901, *Ottawa, Kas.*
Green, Mary Emily, *Charlotte, Mich.*
Green, Ralph Rustin, *Charlotte, Mich.*
Groos, John Otto, *Escanaba, Mich.*
Grosser, Edmund W., M.D. (*Chicago Homeopathic Coll.*), 1901, *Chicago.*
Gulick, Clyde Denny, B.S. (*Univ. of Ill.*), 1897, *Champaign.*
Gunning, John Macauley, *Reardon, Wash.*
Hahn, Louis August, *Galesburg.*

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Hammers, Lewis Joseph,	*Normal.*
Harroun, William Arthur,	*Portland, Ore.*
Hathaway, Robert Eugene,	*Chicago.*
Haynes, Benjamin Hubert,	*Estherville, Ia.*
Heller, William Henry,	*Marcus, Ia.*
Helmey, Carl Theodore,	*Canton, S. Dak.*
Henderson, Maurice Leroy,	*Moscow, Ia.*
Herrington, Charles Warren,	*Madison, Wis.*
Hicks, J. Calvin,	*Polo.*
Hill, Mrs. Emma Linton, M.D. (*Kansas Medical Coll.*), 1895,	*Oswego, Kas.*
Hill, William Crawford,	*Murphysboro.*
Hinckley, Harry G., M.D. (*Bennett Medical Coll.*), 1898,	*Chicago.*
Hollis, William Allen, Ph.B. (*Taylor Univ.*), 1898,	*Hartford City, Ind.*
Holmes, John Montelle,	*Monticello.*
Hoopes, Fred Clifford,	*Pickrell, Neb.*
Hornibrook, Freeman Harding,	*Cherokee, Ia.*
Hosman, Willis Erwin, M.D. (*Coll. of P. & S., Indianapolis*), 1892,	*Akron, Ind.*
Howard, Glenn Atherton,	*Columbus, Wis.*
Howard, Harry Willard,	*Spokane, Wash.*
Howard, John Fred, M.D. (*Chicago Homeopathic Coll.*), 1900,	*Chicago.*
Hyde, David Lancaster,	*Chicago.*
Inks, Charles Andrew,	*Nappanee, Ind.*
Jamison, Garling U,	*Clarksville, Texas.*
Jennings, Ralph Emmitte,	*Templeton, Ind.*
Johnson, Paul Wardner, B.L. (*Milton Coll.*), 1898,	*Milton, Wis.*
Johnson, Wilbur Vogt,	*Chicago.*
Johnson, Willard Bruce,	*Des Moines, Ia.*
Jordan, Alfred Bernard, M.D. (*Mich. Univ. Homeopathic Coll.*), 1890; M.D (*Illinois Medical Coll.*), 1900,	*San Francisco, Cal.*
Jungels, William Witry,	*Dubuque, Ia.*
Kaa, Niels Anderson,	*Dixon.*
Kaemmerling, George Peter,	*Milwaukee, Wis.*
Kimball, George W,	*Door Village, Ind.*

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Kincaid, J. H., M.D. (*Jenner Medical Coll.*), 1901, *Chicago.*
King, Frank Aylsworth, *Benton Harbor, Mich.*
Kirch, John Patrick, *Richland Center, Wis.*
Kitterman, Frederick Raymond, *Tiskilwa.*
Kittermann, P. Gad, *Ottumwa, Ia.*
Kittler, Walter Eugene, *Milwaukee, Wis.*
Klehm, A. Louise, *Niles Center.*
Klingler, Ellis Gise, *Manhattan.*
Knox, Thomas Blackburn, *Madison, Wis.*
Kurtz, Fred Baldwin, *Princeton, Ind.*
Kyes, Sherman Morris, *Oshkosh, Wis.*
Lahodney, Charles J, *Chicago.*
Lane, Charles Sumner, *South Lyons, Mich.*
Larson, Carl Ludwig, *Chicago.*
Leavitt, Frank James, *Langford, S. Dak.*
Leehey, Florance Patrick, *Fairbank, Ia.*
Little, Ernest Hartley, *Minburn, Ia.*
Lockwood, Charles Richard, *Kankakee.*
Lofgren, Carl Albin, A.B. (*Augustana Coll.*), 1897, *Dayton, Ia.*
Lowe, Lew Morgan, *Slayton, Minn.*
Lowry, Norbert Julius, *Cresco, Ia.*
Lunn, Martin Jacob, *Beloit, Wis.*
Lyon, George Elmer, *Rochelle.*
McCall, Frank B., D.V.M., (*Iowa State Veterinary Coll.*), 1893; M.D. (*Harvey Medical Coll.*), 1900, *Chicago.*
McCarthy, Mrs. Katherine, *Chicago.*
McCarty, William Thomas, *Campbellsport, Wis.*
McConvill, Bernard James, *Lodi, Wis.*
McGrath, Benjamin Robert, *Savanna.*
McGuire, Charles John, *Milwaukee, Wis.*
McIntire, Arthur Cecil, *Mendota.*
McKinney, Newton Charles, *Camargo.*
McNeil, Benjamin F, *Fort Dodge, Ia.*
Magnus, Max Edward, *San Francisco, Cal.*
Manning, Thomas Francis, *Juneau, Wis.*
Maris, Emilie Rebecca, *Duluth, Minn.*
Martin, Nancy Lee, A.B. (*Wellesley Coll.*), 1896, *Monmouth.*

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Martinson, Martin M., M.D. (*Keokuk Medical Coll.*), 1900, *Algona, Ia.*
Martinson, Mrs. Stella, M.D. (*Keokuk Medical Coll.*), 1900, *Algona, Ia.*
Mason, Tracy Richardson, M.D. (*American Medical Coll.*), *Wardner, Idaho.*
Merki, Emil John, *Chicago.*
Merryman, George Harris, *Hillsboro, Ore.*
Meyers, Judson Melvin, *Verona, Wis.*
Miller, Charles Arthur, *Makanda.*
Miller, George Louis, *Champaign.*
Miller, Robert Williamson, *Comely, Ohio.*
Montgomery, John Roe, *Malvern, Ia.*
Mitchell, William Frank, B.S. (*Ottawa Univ.*), 1899, *Superior, Neb.*
Morrill, Harlon Justin, *Minneapolis, Minn.*
Morris, Robert Wilson, A.B. (*Monmouth Coll.*), 1898, *Greenwich, N. Y.*
Murphy, Francis Thomas, *Chicago.*
Nadig, Anton T., *Rush.*
Nickelsen, George A., *Corpus Christi, Texas.*
Ottersbach, Carl, *Waken, Germany.*
Overmass, Samuel Edward, *Chicago.*
Overton, Orville Perry, A.B. (*Univ. of Ore.*), 1898, *Brownsville, Ore.*
Parker, Charles Eugene, *Gilman.*
Patterson, William Madden, *Farmer City.*
Perry, John Morris, *Princeton, Mo.*
Phifer, Charles Herbert, *Shumway.*
Phillips, Floyd, *Tuscola.*
Plice, William Andrew, Ph.G. (*Univ. of Ill.*), 1894, *Chicago.*
Podger, Maxwell Philip, *Chicago.*
Poinier, Edwin William, *Irving Park.*
Potter, Charles Arthur, *Geneva.*
Powers, Herbert William, *Chicago.*
Richards, Henry, *Chicago.*
Rodefeld, Henry Herman, *Chicago.*
Rooks, John J., M.D. (*Grand Rapids Medical College*), 1901, *Grand Rapids, Mich.*
Root, Romeo Richmond, *Tempe, Ariz.*

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Rosenthal, George Ernest, *Quincy.*
Ruge, Edward Cornelius, *Neenah, Wis.*
Rydin, Carl Gustaf S., *Chicago.*
Sabin, Alexander C., Jr., *Beatrice, Neb.*
Sawtelle, Henry Fenno, *Chicago.*
Schaefer, P. H, *Burlington, Ia.*
Sessions, John Chandler, *Minneapolis, Minn.*
Sexton, Ira J., *Chicago.*
Shafer, Howard O., *Rochester, Ind.*
Sheller, William Owen, *Ashland, Ohio.*
Shelton, R. O., *Pulaski, Ia.*
Siegfriedt, John C. Fred, *Davenport, Ia.*
Slater, Henry Herbert, *Decatur.*
Sleyster, L. Rock, *Chicago.*
Smiley, R. Borden, *Lind, Wis.*
Smith, Clyde Livingston, *Shelbyville.*
Smith, George W., *Galesburg.*
Souder, Ulysses Grant, *Chicago.*
Standley, Kathryn Vance, *Laclede, Mo.*
Steckle, Allen Chubb, *Freeport, Mich.*
Stettauer, Joseph Louis, *Chicago.*
Stevens, Samuel Lorenzo, *Bloomington.*
Stillman, Wayne L., D.V.M. (*Iowa State College*), 1899, *Newell, Ia.*
Stoops, Robert Earl, *Edgerton, Ohio.*
Streich, E. A., *Chicago.*
Strong, Charles David, *Paxton.*
Sunde, Peter H., M.D. (*Jenner Medical Coll.*), 1901, *Chicago.*
Taylor, Charles Irwin, *Indianola, Ia.*
Thomas, William Harper, *Traer, Ia.*
Thompson, Gertrude Fanny, *Chicago.*
Tolley, Elmer Whitfield, Oph.D. (*McCormick Ophthalmic Coll.*), 1895, *Chicago.*
Tomhagen, Mrs. Laura, *Chicago.*
Trail, Charles Jepthah, *Independence, Ia.*
Tyvand, James, *Forward, Wis.*
Vehard, Thomas S., *Ness City, Kas.*
Venn, Walter Thomas, *Aurora.*
Wachowski, John George, Ph.G. (*Northwestern School of Pharmacy*), 1900, *Chicago.*

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Walliker, Wilbur Myron, *Clinton, Ia.*
Walvoord. Gerrit William, *Cedar Falls, Ia.*
Waskow, Otto George, Ph.G. (*Chicago Coll. of Pharmacy*), 1893, *Chicago.*
Weaver, Ben: Perley, B. S., (*Univ. of Ill.*), 1899, *Danville.*
Welch, Jeanette C., Ph.D. (*Univ. of Chicago*), 1897; A.B. (*Wellesley Coll.*), 1899, *Benton Harbor, Mich.*
Werelius, Axel F. W., *Chicago.*
Whyte, Peter Duncan, *Chicago.*
Wichmann, Henry Thomas, *Chicago.*
Wiley, Jesse Bertram, *Buckgrove, Ia.*
Wilson, John Miller, B.L. (*Monmouth Coll.*), 1898, *Chicago.*
Winters, William Thomas, *Chicago.*
Yantis, David Earl, *Yantisville.*
Yeates, William, *Kankakee.*
Young, Charles C., Ph.G. (*Univ. of Minn.*), 1895, *Dickenson, N. Dak.*
Young, Mrs. C. C., *Emporia, Kas.*
Zilisch, William Edward, *Hustisford, Wis.*
Zohrlaut, George Guido, *Milwaukee, Wis.*

JUNIORS

Altman, Maurice, *Lincoln.*
Amundson, Orrin C., *Estherville, Ia.*
Anderson, Emil Bernard, *Chicago.*
Anderson, Samuel Milligan, Ph.B. (*Coll. of Emporia*), 1900, *Wichita, Kas.*
Ash, Mary Ella, B.S., (*Knox Coll.*), 1893, *Oneida.*
Baird, Mary Brooks, A.B. (*Chicago Univ.*), 1896, *Eureka, Kas.*
Balenseifer, Otto, Ph.G. (*Univ. of Ill.*), 1897, *Joliet.*
Barnes, Charles E., *Chicago.*
Barnes, Thornton B., *Connellsville, Pa.*
Barnsback, J. Lester, *Edwardsville.*
Barnum, William T., *Adrian, Mich.*
Beck, Frank Pierce, *Brockton.*
Beck, Mrs. Viola B., *Brockton.*
Birney, Varillas C., Jr., *Green, Ia.*

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Blough, George F., *Mongo, Ind.*
Brown, Delmar Case, A.B. (*Toronto Univ.*), 1898, *Fairbault, Minn.*
Bryan, Thomas A., *Greencastle, Ind.*
Buchanan, Thomas Alva, *Tonganoxie, Kas.*
Burchett, Edwin, *Moulton, Ia.*
Burgess, Charles Oliver, *Fisher.*
Butterfield, Edwin J., *Crocker, Ia.*
Butterfield, Forest Russell, *Chicago.*
Carpenter, Jessie Drew, *Chicago.*
Casavaw, William F., *Sac City, Ia.*
Cohen, Sylvan Gabriel, *Chicago.*
Conley, B. Montrose, *Boone, Ia.*
Copenhaver, John H., *Bellflower.*
Court, Harry Marshall, *Buffalo, N. Dak.*
Cummings, Henry Thompson, *Chicago.*
Dakin, Robert G., *Melvin.*
DeMenil, Henry Nicholas, *Chicago.*
DeNeven, Arthur V., *Green Bay, Wis.*
Derdiger, Louis, *Chicago.*
Desmond, M. A., *Rushford, Minn.*
Dodds, David C., *Idana, Kas.*
Dorn, Fred R., *Waterville, Minn.*
Doty, Clarence, *Union, Ia.*
Dunn, Clara, *Chicago.*
Eddy, Irving Herbert, *Audubon, Ia.*
Eldredge, Richard L., *Chicago.*
Estes, Ranson Logan, *Neoga.*
Fanyo, Fred, *Watseka.*
Ficke, Emil Otto, *Chicago.*
Fischer, Oscar G., *Chicago.*
Fisher, Frank Crist, *Chicago.*
Forbes, Harvey J., *New Hampton, Ia.*
Frechtling, Louis H., *Hamilton, Ohio.*
Fritz, Albert Levi, *Earlham, Ia.*
Fucik, Edward J., *Chicago.*
Geiger, Louis H., *Paxton.*
Geisel, Ezra Edward, *Wilmont, Minn.*
Goldberger, Henry Enoch, Ph.G., (*Chicago Coll. of Pharmacy*), 1890, *Chicago.*
Golembiowski, Julian J., *Chicago.*

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Gourley, Fred Lantz,	*Paxton.*
Greaves, Walter Wood,	*Austin.*
Groff, Robert Legg,	*Lawrenceville.*
Hagyard, Charlton E.,	*Winnipeg, Manitoba.*
Hall, Milton Weston, B.S., (*Mass. Institute of Technology*), 1900,	*Evanston.*
Hart, William Edward,	*Galva, Ia.*
Haskell, John Eddy, A.B., (*DePauw Univ.*), 1897,	*Greencastle, Ind.*
Hawkins, George Merrill,	*Elkhorn Grove.*
Hays, Anna,	*Clarksville, Ark.*
Henderson, Robert,	*Buchanan, Mich.*
Hewins, Harry Augustin,	*Rankin.*
Hilgar, Joseph M.,	*Mazeppa, Minn.*
Holmes, Edward Marcellus,	*Chicago.*
Holmes, Philip H.,	*Bloomington.*
Horn, Archie Solomon,	*Pewaukee, Wis.*
Houda, Emil Otto,	*Chicago.*
Howard, George Herbert,	*Onalaska, Wis.*
Howe, Lyston D.,	*Streator.*
Ingham, George Meek,	*Wilton, Ia.*
Jackson, Edward W.,	*Kankakee.*
Jennings, Harriet Bell,	*Marseilles.*
Jewell, Milton Dana,	*Decorah, Ia.*
Johnson, Julius A.,	*Disco, Wis.*
Johnson, Lyford M.,	*Annawan.*
Jones, Margaret May, B.S., (*Iowa State Coll.*), 1897,	*Mason City, Ia.*
Joyce, Martin Thaddeus,	*Waterloo, Wis.*
Katz, Bernard G., Ph.C., (*Northwestern School of Pharmacy*), 1900,	*Yankton, S. Dak.*
Kavaljian, Zaroohie S.,	*Adabazar, Turkey.*
Kenny, Harry Thomas,	*Cherokee, Ia.*
King, Robert C.,	*Emmetsburg, Ia.*
Klinefelter, L. Edgar,	*Center Point, Ia.*
Kullmer, John Henry,	*Dysart, Ia.*
Lamb, James G.,	*Bennett, Ia.*
Landau, David Ralph, Ph.G., (*Univ. of Ill.*), 1897,	*Chicago.*
Lang, Henry William,	*Chicago.*
Lipman, William Henry,	*Chicago.*

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Long, W. Ernest,	*Roodhouse.*
Loveridge, Burt T.,	*Marcellus, Mich.*
McCarthy, Harry C.,	*Richland Center, Wis.*
McCarty, Charles E.,	*Ancona, Fla.*
McGann, Michael E.,	*Joliet.*
Madden, William D.,	*Lyons, Ia.*
Maloy, Bernard,	*Rensselaer, Ind.*
Mead, Nehemiah Paul, Ph.G., (*Univ. of Iowa*), 1897,	*Akron, Ia.*
Mellen, Charles Sylvester,	*Chicago.*
Mitchell, Ezra Jay,	*Broadhead, Wis.*
Moe, Ray Wallace,	*Burlington, Wis.*
Molnar, Helen,	*Javornik, Austria.*
Monahan, James J., A.B., (*Lehigh Coll.*). 1899,	*Tomah, Wis.*
Moore, Ernest Sisson, Ph.D., (*DePauw Univ.*), 1892,	*Chicago.*
Moore, William Henry,	*Bay City, Mich.*
Morgan, Charles McRae, A.B., (*Southwestern Presbyterian Univ., Tenn.*), 1893.	*Camden, Ark.*
Murphy, Bernard E.,	*Chicago.*
Meyers, Carleton S.,	*Chicago.*
Napieralski, Emanuel Ferdinand,	*Chicago.*
Nelson, Henry Eugene,	*Decorah, Ia.*
Newfield, Hugo Hiendle,	*Chicago.*
Newman, Fred McPherson,	*Clarksville, Ia.*
Nielson, John,	*Chicago.*
Nowakowski, John J.,	*Chicago.*
Null, Marion Michael, B.S., (*Univ of Ill.*), 1900,	*Blandinsville.*
Oberholtzer, Edward James,	*Williamsville.*
Parker, Don L.,	*Shelbyville.*
Parkinson, William Brigham,	*Logan City, Utah.*
Phillips, Charles Eton, A.B., (*Eureka Coll.*), 1900,	*Millington.*
Pickett, Charles H.,	*Chicago.*
Pitzele, William Aaron,	*South Chicago.*
Pokorney, Frank Joseph, Ph.G., (*Univ. of Ill.*), 1899,	*Chicago.*
Poorman, C. W.,	*Junction City, Kas.*
Porges, Irving Angel,	*Chicago.*

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Porter, William H.,	*Beaulieu, N. Dak.*
Power, Lamar M.,	*Escanaba, Mich.*
Powers, John William,	*Savanna.*
Pullen, Frances K., A.B., (*Wellesley Coll.*), 1896,	*Oak Park.*
Ransom, Charles Wallace,	*Madison, Wis.*
Reay, Matthew,	*Braceville.*
Reese, Ernest Gray, Ph.C., (*Univ. of Mich.*), 1895,	*Bowling Green, Ohio.*
Reeves, Emory W.,	*Plymouth, Ind.*
Rightman, William M.,	*Chicago.*
Robbins, Emma Eliza,	*Ord, Neb.*
Robbins, Nelson John,	*Ishpeming, Mich.*
Ryerson, Mrs. Esther Ann,	*Simcoe, Ont.*
Sackett, L. M.,	*Parsons, Kas.*
Saunders, Clark Edward,	*Union, Ore.*
Scarborough, Walter Enos,	*Shelbyville.*
Scholten, Dirk John,	*Alton, Ia.*
Schroeter, Oscar V.,	*Chicago.*
Seelye, Norman Lee,	*Lake Geneva, Wis.*
Seidel, Albert Christian William,	*Quincy.*
Shepherd, William A.,	*Seymour, Wis.*
Sherrill, Joseph J.,	*Chicago.*
Sibley, Leroy,	*Terre Haute, Ind.*
Skillian, Clare,	*Chicago.*
Slater, E. C.,	*Piasa.*
Smith, James Lawrence,	*Chicago.*
Stoughton, Elgin Leroy,	*Mt. Monah, Mo.*
Stuenkel, Arthur J.,	*Arlington Heights.*
Sure, Julius H.,	*Chicago.*
Swarthout, Ellis Frank,	*Pine Island, Minn.*
Thayer, Frederick Almon,	*Chilton, Wis.*
Thomas, Benjamin,	*Macon, Miss.*
Thomas, Mrs. Matilda H.,	*Macon, Miss.*
Tweedall, Daniel G.,	*Evansville, Ind.*
Ullman, Eva P.,	*Chicago.*
Uran, Joseph,	*Kankakee.*
Urmston, Paul Robert,	*Hamilton, Ohio.*
Vance, Harvey M.,	*Bennett, Ia.*
Vaughan, Harry Floyd,	*Swanton, Ohio.*
VonColditz, Grambow Thomsen,	*Chicago.*

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Von der Heydt, Robert, *Chicago.*
Voris, Henry McMunn, *Neoga.*
Waddle, Herbert Clarke, *Chicago.*
Was, Francois, *Chicago.*
Waufle, Guy C., *Milton Junction, Wis.*
Wear, Newton Whitney, *Plymouth.*
Webster, Josephine Ella, *Chicago.*
Weld, James C., *Chicago.*
Wessels, Walter Fred, *Quincy.*
West, C. Pearl, *Pleasant Hill, Ohio.*
Wicks, Seth, *Akron, Ind.*
Williams, Charles L., *Chicago.*
Wilson, James William, *Chicago.*
Wilson, Lamont R., *New Hampton, Ia.*
Winne, Charles Walter, Ph.C., (*Univ. of Ill.*), 1897, *Chicago.*
Winston, Verne Ernest, *Evansville, Wis.*
Wochos, Wenzel M., *Stangelville, Wis.*
Wood, James Manley, *Chicago.*
Xelowski, Thaddeus, Ph.G., (*Univ. of Ill.*), 1897, *Chicago.*
Yates, Charles E., *Narka, Kas.*
Young, James Aurelius, *Rankin.*

SOPHOMORES

Archer, Charles Andrew, *Arkadelphia, Ark.*
Armstrong, Jay Latrell, *Urbana.*
Ash, Ray C., *Ashland, Ohio.*
Axe, Ross Harrison, *Morocco, Ind.*
Ayers, Chester Arthur, *Des Moines, Ia.*
Ayers, Daniel Francis, *Chicago Heights.*
Bear, Samuel W., Ph.B., (*DePauw Univ.*), 1893; A.M., (*DePauw Univ.*), 1898, *Nappanee, Ind.*
Bahl, William Henry, *Moline.*
Bankerd, Howard Roswell, *Euphemia, Ohio.*
Barabin, Joseph Hercules, A.B., (*Fisk Univ.*), *New Orleans, La.*
Barker, Clarence Dryden, *Austin.*
Baumgart, Fred, *Danville.*
Bean, James Robert, *Washington, Ind.*
Beck, Judah Bezal, *Chicago.*
Beisenthal, Max, *Chicago.*

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Beveridge, George, A.B., (*Monmouth Coll.*), 1899,	*Victor.*
Blackmer, Frank J.,	*Albert Lea, Minn.*
Blackmer, Loven, Jr.,	*Albert Lea, Minn.*
Blumenthal, Robert Warren,	*Columbus, Wis.*
Boehmer, Olaf, A.B., (*Univ. of Christiana, Norway*), 1888,	*Chicago.*
Borges, David G.,	*Chicago.*
Carmack, Albert Orton,	*Camargo.*
Case, Schuyler Winfred,	*Cherry Valley.*
Cavanaugh, John Algernon,	*Chicago.*
Cole, Daniel Thomas,	*Rantoul.*
Colliver, Samuel Noel,	*West Grove, Ia.*
Cone, D. Edmund,	*Otsego, Ohio.*
Cornell, William Q.,	*Chicago.*
Crouch, James Adam,	*Belle Prairie.*
Cuttle, Frederick,	*Riverside, Cal.*
Dale, John R.,	*Fremont, Ia.*
Danek, Eric Jacob,	*Chicago.*
David, Frank Elmer, D.D.S., (*Chicago Coll. of Dental Surgery*), 1892,	*Chicago.*
Doe, Albert Leroy,	*Lake City, Minn.*
Donkle, Lucius B.,	*Madison, Wis.*
Dewey, Anson Cyrus, Ph.G., (*Northwestern Univ.*), 1899,	*Hemlock, Wis.*
Dickey, Samuel James,	*Hartstown, Pa.*
Dielman, Frank Commodore,	*Akron, Ind.*
Dillon, Bert John,	*Chicago.*
Dougherty, John Philip,	*Omaha, Neb.*
Eade, John Laity,	*Muscatine, Ia.*
Eisendrath, Jacob Leonard,	*Chicago.*
Elich, Herman, Ph.G., (*Univ. of Ill.*), 1896.	*Chicago.*
Enfield, J. Donald,	*Clarinda, Ia.*
Gailey, William Watson,	*Ashland.*
Geisen, Charles W.,	*Calmar, Ia.*
Gordon, Edmund Stanislaus,	*Chicago.*
Gotthelf, Isaac Lott,	*Denver, Colo.*
Gourbeau, Edward Joseph,	*Ishpeming, Mich.*
Greaves, Joseph Ainsworth,	*Austin.*
Gunderson, Cornelius,	*Chicago.*

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Haessley, Stephen Benedict,	*Herbert, Wis.*
Hagans, Grace Frith,	*Chicago.*
Halliman, Edward Leo,	*Clinton, Ia.*
Harman, Ira Chase,	*Milford.*
Harrington, William Emery,	*Owatonna, Minn.*
Haslit, Percy Parker,	*Dolson.*
Hattery, Hillis H.,	*Waterloo, Ia.*
Hayes, Frank Crawford,	*Camden.*
Heffelfinger, Miles Akin,	*Grundy Center, Ia.*
Heinen, Aloys,	*Chicago.*
Henning, Albert Francis,	*Newell, Ia.*
Hinman, Willis Townsend, Ph.G., (*Northwestern Univ.*), 1895,	*Cambridge.*
Hoag, Robert Baldwin,	*Danville, Cal.*
Horstman, Frank Marion,	*Barron, Wis.*
Hostetter, Abram,	*Mt. Carroll.*
Hundley, James Barnett,	*Rome, Ky.*
Hutchinson, Owen Ghormley,	*Clarence.*
Jackson, Mary T.,	*Coalport, Pa.*
Jacoby, William Kaull,	*Wells, Minn.*
Jarvis, E. T.,	*Plymouth.*
Jones, Charles Everett, Ph.G., (*Univ. of Ill.*), 1898,	*Oak Park.*
Joyce, George Timothy,	*Stewartville, Mo.*
Kaemmerling, Theodore Simon,	*Chicago.*
Kay, Milton,	*Walla Walla, Wash.*
Keefe, Frank M.,	*Clinton, Ia.*
Kelley, Frank Hetherington,	*Chicago.*
Ketchum, Ellen Pauline,	*LaPrairie.*
Kruk, George Joseph,	*Chicago.*
Landau, Benjamin Gabriel,	*Chicago.*
Landmann, Gustave,	*Scottland, S. Dak.*
Lee, Edgar C.,	*Chicago.*
LeMaster, B. E.,	*Bushnell.*
Loupee, Sherman L.,	*Williamsville, Mich.*
Luke, Edward,	*Danville.*
Lurie, Gottlieb,	*Chicago.*
McCracken, Robert Edward, Ph.G., (*Chicago Coll. of Pharmacy,*), 1893,	*Central City, Neb.*
McWhorter, Port,	*Miller, S. Dak.*
Martin, Manfred Robert,	*Weldon.*

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Marvel, Luther Martin,	*Waynesville.*
Mattison, Charles Wesley, B.S., (*Penn. Coll.*), 1900,	*Oskaloosa, Ia.*
Merritt, Frank,	*Centerville, Ia.*
Miller, John Michael,	*Pinckneyville.*
Montgomery, James Redman,	*Cynthiana, Ind.*
Markley, George Washington,	*Defiance, Ohio.*
Moore, Clara,	*Kewaunee, Wis.*
Moore, George Wilford,	*Kewaunee, Wis.*
Morris, Robert Lyman,	*Maroa.*
Morton, David Holmes,	*Elmwood.*
Newcomb, Cyrus Forsyth,	*Champaign.*
Oake, William Thomas, Ph.G., (*Northwestern School of Pharmacy*), 1892,	*Chicago.*
Ogelsby, Nicholas Perkins, Ph.C., (*Ohio State Univ.*), 1900,	*Pulaski, Va.*
O'Neill, J. Howard,	*Chicago.*
Patera, Edward, Ph.G., (*Northwestern School of Pharmacy*), 1895,	*Chicago.*
Pierce, Joseph Cooper,	*Ridgefarm.*
Quales, Iver Lewis, Ph.G., (*Northwestern Univ.*),	*Chicago.*
Raynor, Melbourne,	*Rose Hall, Ont.*
Reed, Wiliam Henry, A.B., (*Univ. of Iowa*), 1900,	*Mankato, Kas.*
Reitman, Benjamin L.,	*Chicago.*
Replogle, Joseph F.,	*Pontiac.*
Rubel, Harry Francis,	*LeMars, Ia.*
Sayad, Elisha Elijah,	*Oroomiah, Persia.*
Schallert, Paul O.,	*Johnson Creek, Wis.*
Schimelfenig, Clarence,	*Chicago.*
Sepple, Edward Gerald,	*Chicago.*
Seymour, Ernest DeLacey,	*Dwight.*
Sherlock, Margaret,	*Martinsburg, Ia.*
Simpson, William Likely,	*Diagonal, Ia.*
Sloan, Harry Melville,	*Chicago.*
Spencer, William Henry,	*Vinton, Ia.*
Starck, Carl Adam,	*Palatine.*
Stevens, Robert Edward,	*Rochelle.*
Stewart, John H., Jr.,	*Exeter.*
Strayer, Lucile Irene,	*Chicago.*

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Sweet, Hartford, A.B., (*Univ. of Oregon*), 1901, *Mt. Etna, Ia.*
Taylor, Frank Bashford, *Madison, Wis.*
Thomas, Edna Margaret, *Monticello, Ia.*
Thomas, George Henry, *Chicago.*
Treiber, Louis Peter, *Norway, Mich.*
Twohig, David James, *Armstrong, Wis.*
VanBuren, Arthur, *Cedar Rapids, Ia.*
Vopata, William John, *Chicago.*
Wall, Clarence H., *Chicago.*
Watts, Felton D., *Williamston, Mich.*
Weed, Bryant, *Centerville, Mich.*
White, Seward H., *Olin, Ia.*
Wilmot, Clausson M., *Camp Grove.*
Winbigler, B. Rex, *Gerlaw.*
Windmüller, Charles, *Chicago.*
Wistein, Mrs. Rose, *Chicago.*
Wood, Frank Leighton, *Superior, Wis.*
Wood, Orlando Garfield, *Chelsea, Mich.*
Young, William Hamilton, *Chicago.*

FRESHMEN

Bagley, Henry Patterson, *Chicago.*
Ballou, Jesse, *Pleasant View.*
Bawden, George Steve, *Davenport, Ia.*
Beardsley, Carolyn Frances, *Highland Park.*
Boal, Daniel, *Chicago.*
Bowen, Fred Phelps, *Richland Center, Wis.*
Bowsher, Frank Llewellyn, *Greenville, Ohio.*
Brittin, Fred, *Springfield.*
Brixey, James C., *Chicago.*
Broad, Henry Abramson, *Chicago.*
Brown, Frederick, *Coal City.*
Browne, John Payne, *Chicago.*
Buchan, Edward James, *Racine, Wis.*
Burgess, Albert Ross, *Belle Plaine, Kas.*
Burnside, Lyman Ambrose, *Dolson.*
Bybee, Addison, *Rochester, Ind.*
Caron, Arthur, *Bourbonnais.*
Christenson, John August, B.S., (*Augustana Coll.*), 1900, *Jamestown, N. Y.*
Cutbirth, Fred Sheets, *Hollandsburg, Ind.*

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Daly, John Michael,	*Chicago.*
Davies, Bertram Charles,	*Downers Grove.*
Dawes, Leonard,	*Monroe Center, Wis.*
Dean, George Almarion,	*Chicago.*
Dewitz, Otto John,	*Chicago.*
Dunshee, Vernon Amasa,	*Mt. Carroll.*
Eagan, John Bernard,	*Muscoda, Wis.*
Edwards, James Edward, A.B., (*Wofford Coll., S. C.*), 1900,	*Abbeville, S. C.*
Egan, John Joseph,	*Chicago.*
Egan, William Joseph,	*Chicago.*
Farquhar, David Clifford,	*West Brownsville, Pa.*
Fink, Otto Ellsworth,	*Crawfordsville, Ind.*
Folckemer, Herry Rox,	*Camp Point.*
Grant, Oscar Emanuel,	*New Windsor.*
Gray, William Karg,	*Chicago.*
Greenwald, Charles Edward,	*Whiting, Ind.*
Grout, Benjamin Chase,	*Chicago.*
Hagans, Frank M.,	*Browning.*
Hattendorf, Jessie,	*Waterloo, Ia.*
Hayton, Arthur Russell,	*Battle Creek, Mich.*
Hoeve, Hubert,	*Chicago.*
Hollerich, William Edward,	*Spring Valley.*
Hopkins, Fred Grant,	*Chicago.*
Huff, Frank Delbert,	*Argos, Ind.*
Jacks, Ruffin Barrow,	*Nero, La.*
Jefferson, Henry Asbury,	*Menominee, Wis.*
Jennings, Arthur,	*New London, Wis.*
Johnson, H. Amanda,	*Blair, Wis.*
Jones, Fred Wade,	*Chicago.*
Jones, Solomon,	*Chicago.*
Kearney, James Francis,	*Chicago.*
Kelley, Charles D.,	*Chicago.*
Kelley, James William,	*Chicago.*
Keyes, Harley Emmett,	*Chicago.*
Kubricht, Theophilus,	*Chicago.*
Kyle, Charles Thomas,	*Downsville, Wis.*
Levinton, Emil Zola,	*Chicago.*
Lundwall, Lawrence, B.S., (*Augustana Coll.*), 1901,	*Brocton, Mass.*
McArthur, Charles,	*Hartley, Ont.*

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Maher, Thomas Francis, *Chicago.*
Meeks, Clark C., *Pontiac.*
Merritt, Charles Walter, *Chicago.*
Mitchell, Columbus Nathaniel, *Sidney, Ia.*
Montgomery, William, *Eau Claire, Wis.*
Morrell, Joseph R., *Logan City, Utah.*
Morton, Edward Earle, *Chicago.*
Mount, William Chalmers, *Darlington, Ind.*
Murphy, Patrick A., *Chicago.*
Myers, Louis Winfield, *Argenta.*
Norton, Francis Patrick, *Rochester, Minn.*
Norton, Ralph Waldo, *Farmington.*
Okerstrom, Albert, B.S., (*Augustana Coll.*), 1898, *Anoka, Minn.*
Olsson, Olof, A.B., (*Augustana Coll.*), *Grand Rapids, Mich.*
Ostrowski, Romnald Othello, *Hammond, Ind.*
Parke, George, *Richland Center, Wis.*
Parker, Freeman Theodore, *Kenosha, Wis.*
Peisch, Benjamin Frederick, *Burlington, Ia.*
Petersen, Henry Christian, *Bethany, Cal.*
Pettit, Herbert Leroy, *Chicago.*
Pirosh, Sigmar, *Chicago.*
Pitz, Robert Henry, *Chicago.*
Powell, Clarence Day, *Chicago.*
Powers, George J., *Streator.*
Ranseen, Carl Matthew, B.S., (*Univ. of Wis.*), 1901, *Chicago.*
Renand, Joseph T. U., Ph.G., (*Northwestern Coll. of Pharmacy*), 1898, *Chicago.*
Rego, Alfred d'Almeida, *Chicago.*
Roach, Harry Andrew, *Heart Prairie, Wis.*
Roth, Albert Alexander, *Chicago.*
Rule, Ross, *Ishpeming, Mich.*
Ryan, Edward Francis, *Chicago.*
Savage, Robert Garfield, *Chicago.*
Schell, Charles P., *Chicago.*
Schwable, Arthur, *Greenville, Ohio.*
Secker, William Valentine, *Wheaton.*
Shapiro, Jacob, *Chicago.*
Shimer, Frank Elmer, *La Porte City, Ia.*
Sietsema, Ebel, *Chicago.*

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Sintzel, Rudolph Virchow,	*Niles Center.*
Skahill, Francis Leo,	*Cascade, Ia.*
Slemons, Clyde Catherwood,	*Sherman, Mich.*
Slocumb, Hugh Henry,	*Winona, Minn.*
Slocumb, Maude Stephens,	*Keithsburg.*
Smith, Charles Kenneth,	*Kankakee.*
Smith, Obed Moses,	*Lilly Lake.*
Stangland, Arthur K.,	*Chicago.*
Stearns, Lester Miles,	*Oak Park.*
Stonehart, George Vincent,	*Brasil.*
Storm, Peter Henry,	*Chicago.*
Stough, Raymond Ward,	*Bryan, Ohio.*
Theobald, Frank,	*Niles Center.*
Thomas, Harley Angus,	*Trempealeau, Wis.*
Thomas, Harry Veder,	*Chillicothe.*
Tupper, Eugene Ellsworth,	*Chicago.*
Vanatta, Fay McVey,	*Randolph, Ia.*
VanKirk, George Hiram,	*Leiters, Ind.*
Wentz, Herbert Bertram,	*Chicago.*
Werner, Charles Frank,	*Chicago.*
Weyer, Ross Steele,	*Chicago.*
Willhite, Frank Vanatta,	*Grant City, Mo.*
Woolston, Wesley John,	*Geneva.*
Zatlin, Anna,	*Chicago.*

SPECIALS AND UNCLASSIFIED

Davis, Robert Anthony, Ph.C., (*Woodstock Institution, Woodstock, Ont.*), 1891,	*Chicago.*
Denkinger, Frederick Carl,	*Concord, Cal.*
Ellis, Mrs. Eliza,	*Chicago.*
Forkin, George Edward,	*Chilton, Wis.*
Gurley, Edwin Lawrence,	*Marietta, Ohio.*
Jacob, A. Gertrude,	*Lima, Pa.*
Kingston, Elwood Almon,	*Picton, Ont.*
Melaik, Mrs. Hattie B., M.D., (*Keokuk Medical Coll.*),	*Kewanee.*
Peterson, Enoch Fred, Ph.G., (*Univ. of Ill.*), 1901,	*Chicago.*
Robbins, Jesse Howard, M.D., (*Sioux City Medical Coll.*), 1895,	*Sioux City, Ia.*

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Robinson, John Wirt,	*Chicago.*
Sadler, William Webster,	*Chicago.*
Snively, Harry Hamilton, A.B., (*Ohio State Univ.*), 1895,	*Columbus, Ohio.*
Staley, Amos Clyde, A.M., (*Illinois Wesleyan Univ.*), 1894,	*Chicago.*
Sullivan, Horace Stanley,	*Selma, Ala.*
Vrooman, Emma J.,	*Chicago.*

SCHOOL OF DENTISTRY

SENIORS

Abbott, Carroll Breed,	*Oshkosh, Wis.*
Adams, Harry Walter,	*Chicago.*
Alther, Arthur E.,	*Minneapolis, Minn.*
Atwood, Arthur Levelle,	*Ludington, Mich.*
Bake, Louis E.,	*Chicago.*
Bawden, Arthur Collan,	*Mt. Carroll.*
Benson, Henry William, B.S., (*Univ. of Minn.*), 1900,	*Superior, Wis.*
Black, James Clarence,	*Maryville, Mo.*
Cameron, Walter Patterson,	*Midland, Ont.*
Carl, Francis Marion,	*Freeport.*
Caron, Alexander,	*Kankakee.*
Chamberlain, Rollo Guy,	*Gobleville, Mich.*
Cummings, Ernest Grafton,	*St. Paul, Minn.*
Daniels, Charles L.,	*Newcastle, Pa.*
Donaldson, Robert Patterson,	*Hyde Park.*
Dubin, Aaron Joseph,	*Chicago.*
Fales, Alfred Henry,	*Chicago.*
Flachtemeier, Arthur Frederick,	*Mendota.*
Granger, John Clay,	*Albion, Mich.*
Grubb, Harry White,	*Chicago.*
Hawes, David Rector,	*Rock Island.*
Hillier, Charles William,	*Mukwonago, Wis.*
Homan, William Withers,	*Cameron, Texas.*
Kelly, Ernest Byron,	*Chicago.*
Kennedy, William,	*Ontario, Canada.*
Lichtenberg, Howard Ferdinand,	*Chicago.*
Luxmore, John P.,	*Chicago.*
McGinnis, Robert Johnston,	*Alexandria, La.*

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Means, Jay Lee,	*Anchor.*
Merz, Frank Raymond,	*Chicago.*
Murphy, John Maxwell,	*Killeen, Texas.*
Murphy, John Richard,	*Onekama, Mich.*
Owen, Claud Deforest,	*Grand Rapids, Mich.*
Pipkin, William Louis,	*Waco, Texas.*
Ratcliff, Frederick Hayes,	*Santa Ana, Cal.*
Rice, Charles Vernon,	*Chicago.*
Rork, Ray Newman,	*Racine, Wis.*
Ruzecka, Martin Joseph,	*Wesely, Minn.*
Taft, Devello Eddie,	*Knoxville, Pa.*
Tigner, Charles Hammond,	*Shreveport, La.*
Urbanek, Marie Rose,	*Chicago.*
Walk, William John,	*Chicago.*
Wasser, Alvin Sylvestor,	*LaPorte, Ind.*

JUNIORS

Adams, Earl,	*Plainwell, Mich.*
Adams, Lysle,	*Austin.*
Bawden, Stephen Richard,	*Mt. Carroll.*
Broman, Alfred Alexander,	*Chicago.*
Cadwallader, Harry,	*Chicago.*
Gottlieb, Leo,	*Chicago.*
Greenfield, Arthur Raymond,	*Pawnee City, Neb.*
Hill, Harlow Henry,	*Winnebago, Minn.*
Hopkins, Louis Warren,	*Garden City, Kas.*
Hubbard, Herman Harry,	*Bavaria, Kas.*
Johnson, Elmer Nichols,	*Chicago.*
Karcher, William Henry,	*Champaign.*
Kelley, Hatson Henry,	*Milwaukee, Wis.*
McElroy, Joseph Daniel,	*Chicago.*
Mann, Alfred Leland Harlan,	*Rochester, Mich.*
Maturznska, Tekla,	*Chicago.*
Monahan, James Emmett,	*Chicago.*
Newlin, Alden Richard,	*Chicago.*
Paden, Seymour Davis,	*Camden, Ind.*
Palmer, George Fred,	*Kewanee.*
Post, William Morton,	*Chicago.*
Rasmussen, Niels Peter,	*Chicago.*
Ryan, Frank John,	*Chicago.*
Scott, James,	*Tarkio, Mo.*
Sprague, Thomas Harvey,	*Hospital.*

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Stahl, Frank Murray, B.S., (*Tarkio Coll.*), 1900, *Tarkio, Mo.*
Swartz, Frederick Holstein, *Yorkville.*
Taylor, William Henry, *Vermont.*
Triplett, William Thomas, *Mentone.*
VanVoorhis, Fred Wilson, *Des Moines, Ia.*
Wardner, George Horace, *LaPorte, Ind.*
Waterman, Charles Edward, Jr., *Chicago.*

FRESHMEN

Abstein, Charles Eugene, *Chicago.*
Beach, Clayton Lyman, *Hull, Ia.*
Beringer, Eric, *Belton, Texas.*
Berryman, William L., *Apple River.*
Brady, George, *Chicago.*
Carey, May, *Chicago.*
Cohn, Israel, *Chicago.*
Converse, Albert Edward, *Springfield.*
Cooley, Vernon Penfield, *Sharon, Wis.*
Frey, Joseph Clark, *Rock Island.*
Freyer, Hedwig, *Chicago.*
Glenn, Ed. Morrow, *Tarkio, Mo.*
Gorney, William Albert, *Chicago.*
Granger, Frank Riley, *Plainwell, Mich.*
Grout, John Carlton, *Rock Rapids, Ia.*
Hannon, Leona C., *Chicago.*
Hemengway, John, *Detroit, Mich.*
Hobbs, Woodie Clay, *Mobile, Ala.*
Holmes, John, *Ogden.*
Ireland, Thomas John, *Chicago.*
Jack, Samuel Timothy, *British Guiana, S. A.*
Jacobs, Charles Theodore, *Burlington, Wis.*
Jones, George Arthur, *Flanigan.*
Kare, Roy, *Chicago.*
Kenny, Edward, *Manistee, Mich.*
Lancaster, Harvey M., *Chicago.*
Lee, Henry Cooley, Ph.G., (*Northwestern School of Pharmacy*), 1898, *Chicago.*
Lichtenberg, Albert Bruno, *Chicago.*
Loescher, Charles M., *Salem, Wis.*
Longwell, John Carl, *Pana.*
Loynd, George A., *Mentone.*

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Lyons, George John,	*Long Branch, N. J.*
McCormick, Ivor,	*Gibson.*
Mackinson, John Charles,	*Pontiac.*
McMaster, Oscar Fitzallen,	*Yoakum, Texas.*
Mahoney, William Daniel,	*Chicago.*
Mulvihill, William Henry,	*Oxford Junction, Ia.*
Murray, Joseph Lawrence,	*Cleveland, Ohio.*
Nauman, Arthur Gottlieb,	*Chicago.*
Pernan, Alvin G.,	*Glifton.*
Ramsey, Elenzo H.,	*Baird, Texas.*
Ramsey, Elmer Hugh,	*Cottonwood, Texas.*
Ramsey, Stonewall J.,	*Cottonwood, Texas.*
Richter, Eva Ruth,	*Chicago.*
Rodenhauser, William Robert, Ph. G., (*Univ. of Ill.*), 1900,	*Bloomington.*
Schulze, Elizabeth Louise,	*Potsdam, Germany.*
Shand, George Josiah,	*Plainwell, Mich.*
Shank, Luther Ralph,	*Chicago.*
Sharp, Charles Byron,	*Tolono.*
Snyder, Harry Dale,	*Elko, Nev.*
Spare, Maurice,	*Chicago.*
Stahl, Frank Milton,	*Tarkio, Mo.*
Stout, Louis Aurora,	*Saybrook.*
Vercoce, Ernest Wycliffe,	*Mont Clare.*
Welch, John D.,	*Kankakee.*
Wells, Samuel Scott,	*Montreal, Canada.*
Wertzler, Charles Fred,	*Chicago.*
Whitbeck, Frederick Ambrose,	*Chicago.*
Wilson, George Henry,	*Sterling, Ontario, Can.*

SCHOOL OF PHARMACY

SENIOR CLASS

Baskerville, Thomas Henry,	*Coal City.*
Bornemann, Sara Sibree,	*Oak Park.*
Bourne, Carl Ellwood,	*Clay City, Ind.*
Bowman, Charles Odus,	*Wathena, Kas.*
Brenke, Gustav Adalbert,	*Chicago.*
Brown, Frederick Andrew,	*Chicago.*
DeLand, Harry Rollins,	*Papillion, Neb.*
Drewitz, John William,	*LaSalle.*

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Engel, Walter Frank,	*Chicago.*
Fawcett, Jacob Theodore,	*Princeton.*
Forbrich, Philip Joseph,	*Chicago.*
Freeman, William Benjamin,	*Chicago.*
Friesenecker, Charles Matthias,	*Galena.*
Geerlings, Isaac,	*Milwaukee, Wis.*
Hamley, Arthur Leroy,	*Maquokcta, Ia.*
Hart, Benjamin Thomas,	*Camp Point.*
Heidbreder, Frank Herman,	*Quincy.*
Hibbe, Harry Mathew,	*Chicago.*
Hitchcock, John Henry,	*Lewistown.*
Houseman, Guy Weedman,	*Farmer City.*
Jungk, Ferdinand Erwin Oscar,	*Chicago.*
Keller, Walter Valentine,	*Chicago.*
Kemp, Harold Brooke,	*Momence.*
Knaak, Theodore John,	*Deerfield.*
Laufer, Ernest William David,	*Chicago.*
Martz, Louis Melvin,	*Watonga, Okla.*
McClenahan, Carl,	*Lafayette.*
McCormick, George Allan,	*Hennepin.*
Mercil, Elmer Joseph,	*Chicago.*
Moyer, Harry Thomas,	*Chicago.*
Nywall, David Alfred,	*Lindsborg, Kas.*
Ozanne, Philo Hoysradt,	*Tempe, Ariz.*
Pedigo, Lee Murray,	*Augusta, Ga.*
Pierce, Francis Elbert,	*Wentworth, S. Dak.*
Rolfe, James Arthur,	*Chicago.*
Rolff, Max Otto,	*Peoria.*
Rommel, Hans Carl,	*Chicago.*
Sauerberg, Einar Andre,	*Chicago.*
Schleder, Arthur Theodore,	*Lena.*
Schmidt, Charles Henry,	*Chicago.*
Schneider, Roy Allison,	*Peotone.*
Seltzer, Bert,	*Manhattan.*
Smith, Brazil Oscar,	*Rockford.*
Snow, Clyde Mason,	*Earlville.*
Stegmayer, Charles Gottlieb,	*Shelbyville.*
Tiscornia, John Baptist,	*Chicago.*
Valbracht, Harry Daniel,	*Chicago.*
Voge, William Fred,	*Chicago.*
Walker, Frederick Douglas Garnet,	*Gibbon, Neb.*

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Welker, Charles John,	*Chicago.*
Wendt, Walter Eli,	*Mayville, Wis.*
Wheatcroft, John Christopher,	*Grayville.*
Wirth, Adolph George,	*Duluth, Minn.*
Wojtalewicz, John Benedict,	*Chicago.*

JUNIOR CLASS

Alkire, Louis Lambert,	*Chalmers, Ind.*
Annis, Reginald Frank,	*Rhinelander, Wis.*
Ansorge, William Kilian,	*Green Bay, Wis.*
Barber, Elmer Clarence,	*Chicago.*
Barthell, Walter Kastner,	*Peoria.*
Bauer, August Harvey,	*Chicago.*
Brown, Rudolph John,	*Chicago.*
Calhoun, Hal Newton,	*Cairo.*
Cartier, Frank Jeremiah,	*Kankakee.*
Charters, John Dixon,	*Ashton.*
Corbus, Andrew Martin,	*Chicago.*
Dearth, Herbert John,	*Grand Ridge.*
Demes, Charles Albert,	*Chicago.*
Denis, Sidney Alvaro,	*Centralia, Wis.*
Devine, Owen Crippen,	*Marietta, Ohio.*
Dietrich, Alfred,	*Leavenworth, Kas.*
Dilley, George Mansfield,	*Shelbyville.*
Dolson, Emil Rutherford,	*Chicago.*
Ellig, Leonard Gustaf,	*Manitowoc, Wis.*
Frank, Louis,	*Chicago.*
Fritz, Oscar Albert,	*Chicago.*
Funkhouser, Horace Earl,	*Mattoon.*
Gessner, Thomas,	*Springfield.*
Gharet, Ralph Roland,	*Birmingham, Ala.*
Ginnsy, Leo Aloysius,	*Sublette.*
Gladville, Will,	*Sullivan.*
Grubb, Don Wiard,	*Galesburg.*
Hagemann, William Hermann,	*Quincy.*
Hahn, Elmer Orville,	*Roberts.*
Harris, Louis,	*Chicago.*
Hatton, Henry Timothy,	*Montrose, Ia.*
Hironimus, Otto,	*Mt. Vernon, Ind.*
Howes, Lincoln,	*Bloomington.*
Jaworski, Edmund William,	*Chicago.*
Jeronimus, Henry Jurgen Huwald,	*Duluth, Minn.*

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Johnson, Axel Gustaf Edward,	*Chicago.*
Jones, Edward William,	*Plankinton, S. Dak.*
Justus, Samuel Vansant,	*Chicago.*
Kappus, John Martin,	*Chicago.*
Karlovsky, Emil Jan,	*Chicago.*
Kenyon, Edgar Clay,	*Chicago.*
Key, Wallace Neil,	*Ashley.*
Koepsell, August John,	*Mayville, Wis.*
Koller, Charles John,	*Chicago.*
Lambert, John Henry,	*Kankakee.*
Lawrence, Victor Emanuel,	*Chesterton, Ind.*
Lester, Shipley,	*Peoria.*
Marshall, Charles Stephen,	*Watonga, Okla.*
Martin, Wesley Attfield,	*St. Anne.*
Merriman, Fred Stoughton,	*Moline.*
Meyer, Frank Joseph,	*Peoria.*
Meyer, Fred Hugo,	*Chicago.*
Mitchell, George Hezekiah,	*Chicago.*
Modaff, John N.	*Aurora.*
Moffitt, Saint John,	*Fithian.*
Moloney, William Arthur,	*Ottawa.*
Montgomery, Walter Raymond,	*Waterloo, Wis.*
Nelson, Clarence Harry,	*Chicago.*
Novak, Anton George,	*Chicago.*
Oldendorph, Otto Jacob,	*Centralia.*
Overton, Burtis Henry,	*Antioch.*
Pattison, Stanley Rensselaer,	*Monmouth.*
Peters, Wesley Garfield,	*Chicago.*
Pettersen, Alfred,	*Chicago.*
Powell, John Burton,	*Vienna.*
Pulford, George William,	*Savanna.*
Purpus, Arthur Henry,	*Quincy.*
Rabe, Edward Craemer,	*Warsaw.*
Reinhardt, Carl Frederick,	*Roberts.*
Rettberg, Anton,	*Peoria.*
Rigg, Joe Griffith,	*Plankinton, S. Dak.*
Root, Glen Gardner,	*Tempe, Ariz.*
Sandberg, Frank Victor,	*Chicago.*
Sanders, Edwin John,	*Fort Dodge, Ia.*
Schafer, Charles Henry,	*Marietta, Ohio.*
Schmitt, Henry John,	*Chicago.*

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Schroeder, William,	*LaPorte, Ind.*
Shaynin, James,	*Chicago.*
Shebleske, Michael Albert,	*Chicago.*
Shinnick, Joseph Richard,	*Watertown, Wis.*
Siebrandt, Martin John,	*Merrill, Wis.*
Sowka, Andrew William,	*Chicago.*
Stadelmann, Harry Edgar,	*Mazomanie, Wis.*
Storkan, Charles Nicholas,	*Wilber, Neb.*
Taliaferro, Samuel Walker,	*Roseville.*
Thometz, Peter Paul,	*Chicago.*
Venn, Charles,	*Chicago.*
Voss, Fritz,	*Chicago.*
Walter, Harry Elsworth,	*Aledo.*
Walta, Edmund Joseph,	*Chicago.*
Walz, Fred Charles,	*Nashua, Ia.*
Waters, James Monroe,	*Clyde.*
Wehrley, George,	*Chicago.*
Weimer, Carl John,	*Pekin,*
Wenban, Frank James,	*Lake Forest.*
White, Wallace Bernard,	*Chicago.*
Willaman, Edson Stayman,	*Chicago.*
Wochas, Frank,	*Stangelville, Wis.*
Zamentowsky, David,	*Chicago.*
Zemlika, Frank C.,	*Merrill, Wis.*

PREPARATORY SCHOOL

Abbott, Cary Lorin,	*Leverett.*
Addis, Russell,	*Canton.*
Allinson, Ora,	*Champaign.*
Alverson, Grace Margaret,	*Champaign.*
Alverson, Eva Luella,	*Champaign.*
Amrine, Thomas Hamer,	*Vermont.*
Armstrong, Neal Holland,	*Urbana.*
Armstrong, Florence Azella,	*Chicago.*
Atkinson, Elizabeth Elliott,	*Urbana.*
Baber, Earl Armetige,	*Sadorus.*
Bailey, Ange,	*Champaign.*
Beebe, Fred Leonard,	*Chicago.*
Baker, Walter Edward,	*Pilot.*
Ballard, Charles Roy,	*New Boston.*

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Ballard, John Blaine,	*New Boston.*
Bandy, Calude William,	*Danville.*
Bean, Elsie Margaret,	*Blue Mound.*
Bennett, Orris,	*Lintner.*
Bireley, Cassia Maude,	*Urbana.*
Black, William Zachariah,	*Urbana.*
Black, Grace Josephine,	*Urbana.*
Blair, Sara Lilian,	*Amherst, Nova Scotia.*
Block, Walter Robert,	*Champaign.*
Boone, Charles Guthrie,	*Chrisman.*
Born, Ora Littlefield,	*Champaign.*
Brant, Belle,	*Hamilton.*
Brant, Jessie Jennie,	*Hamilton.*
Brewer, Ernest Franklin,	*Farmington.*
Briscoe, Robert Walker,	*Kansas.*
Brooks, Verna,	*Macon.*
Brown, Benjamin Ross,	*St. Louis, Mo.*
Brown, William Edward,	*Champaign.*
Burrill, Irene Elsa,	*Urbana.*
Burwash, Florence Lerria,	*Champaign.*
Busey, Martin Kansher,	*Urbana.*
Busey, Simeon Harrison,	*Urbana.*
Busey, Frank Augusta,	*Penfield.*
Butzow, Louis James,	*Sidney.*
Calhoun, Helen Vera,	*Champaign.*
Callan, John Albert,	*Gifford.*
Campbell, Charles David,	*Olney.*
Canaday, Ora,	*Ogden.*
Cash, Paul,	*Oakland.*
Cessna, Albert Bergess,	*Hope.*
Chestnut, Jennie Stewart,	*New Holland.*
Clark, H. Rimer,	*Mt. Morris.*
Clegg, Frank Harold,	*Pullman.*
Collins, Edra,	*Urbana.*
Conard, Harriete Zoe,	*Monticello.*
Conkling, Helen,	*Dewey.*
Cornell, Dick Hadwin,	*Pontiac.*
Costello, William,	*Chicago.*
Craigmile, William Archibald,	*Gifford.*
Cresap, Dwight,	*Urbana.*
Cresap, Trella Jane,	*Urbana.*

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Crouch, Samuel,	*Rozetta.*
Crouch, Verna Ruth,	*Rozetta.*
Dahl, Merton Theodore,	*Canton.*
Dale, Ernest Arthur,	*McLeansboro.*
Davis, Mary Belma,	*Mt. Zion.*
Davidson, Nell Jeanette,	*Mahomet.*
Davison, Fred,	*Smithshire.*
DeMotte, Henry Claude,	*Urbana.*
Denne, Alfred Eugene,	*Gibson City.*
DePuy, Orval Carl,	*Urbana.*
Dickson, Floyd Harry,	*Hampshire.*
Dillavou, John Milford,	*DeLand.*
Dillow, Guy Garland,	*Dongola.*
Dillow, Rooney Samuel,	*Dongola.*
Disbrow, Iva Belle,	*Huntley.*
Divan, Walter Rutledge,	*Burr Oak.*
Dolan, Charles Mark,	*Ohio.*
Doran, Edwin Beale,	*Butler, Mo.*
Dunlap, Albert Menzo,	*Savoy.*
Dunn, Harold Houghton,	*Moline.*
Eckhardt, William George,	*Buffalo Prairie.*
Eiser, Lee Earl,	*Rochelle.*
Ely, Hamlin Mossman,	*Mason.*
English, Jesse Thad,	*Isabel.*
Evans, Martin Edward,	*Chebanse.*
Evans, Bess,	*Champaign.*
Fairbanks, Roland William,	*Bradford.*
Fallon, Clara,	*Champaign.*
Ferry, Lee Clark,	*Warrensburg.*
Fletcher, Ola,	*Ridge Farm.*
Fuller, Miles Chineweth,	*Peoria.*
Fursman, Frances Elias,	*ElPaso.*
Gaffney, Emory Clizbe,	*Springfield.*
Gamble, Fred Grant,	*Champaign.*
Gambach, Jacob,	*Hecker.*
Garst, Stephen Quackenbush,	*Annapolis, Md.*
Gilster, John Fred,	*Chester.*
Goff, Lutie Azuba,	*Rantoul.*
Goldberg, Rose,	*Chicago.*
Goldberg, Hannah,	*Chicago.*
Green, Bessie Rose,	*Ivesdale.*

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Greer, Ellen,	*Minden, Neb.*
Greer, James Richard,	*Fairmount.*
Gross, Alfred Otto,	*Atwood.*
Gregory, Hugh Monroe,	*Oakland.*
Hall, Lloyd Quin,	*Lacon.*
Hall, Quincy Allen,	*Milford.*
Hanson, Harry Herbert,	*Fifer.*
Harper, Edith Elizabeth,	*Urbana.*
Harris, Estelle,	*Modesto.*
Harris, Thomas Michael,	*Lee.*
Hartford, William Scott,	*Champaign.*
Healy, Thomas Frank,	*Rochelle.*
Hensley, Alfred Salem,	*Champaign.*
Hermann, George Bendick,	*Manitowoc, Wis.*
Hess, Rush Miner,	*Evanston.*
Hess, Harry Charles,	*Somonauk.*
Hill, Lucy Bell,	*Urbana.*
Hilligos, George,	*Charleston.*
Hines, Elmer George,	*Huey.*
Holtzclaw, Warren,	*Macon, Mo.*
Hopkins, Ruby Clar,	*Granville.*
Howard, Frederick Seymour,	*Bloomington.*
Howe, Paul Edward,	*Urbana.*
Hubbard, Gurth Searle,	*Joslyn.*
Hughes, Harold DeMotte,	*Antioch.*
Hughes, Kenneth Reece,	*Antioch.*
Hull, Horace,	*Glencoe.*
Hutchinson, David Edward,	*Champaign.*
Jarvis, John Archibald,	*Joliet.*
Jenkins, Charles E.,	*Vermont.*
Johnson, Gordon Gaskell,	*Sycamore.*
Keller, William Alonzo,	*Edwardsville.*
Kise, Stella,	*Champaign.*
Lameson, Agnes,	*Alto Pass.*
Lanham, Mariam Elizabeth,	*Chicago.*
Lash, Raymond,	*Magnolia.*
Latzer, Lenore,	*Highland.*
Leonard, Raymond Anthony,	*Decatur.*
Little, Charles Edwin,	*Sycamore.*
Lovins, Foy Otto,	*Windsor.*
Luxton, Mabel Gertrude,	*East Lynn.*

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Macalister, Robert Norman,	*Chicago.*
McCoy, Charles Brooks,	*Belvidere.*
McCully, Clinton,	*Champaign.*
McDonough, John,	*Urbana.*
McDowell, Elmer Newton,	*Woodstock.*
McGrath, Sylvester Joseph,	*Warrensburg.*
Mackenzie, Elizabeth Grace,	*Decatur.*
McKinney, Harold Burritt,	*Urbana.*
McLean, Walter Randolph,	*Macomb.*
McMath, Roscoe Allen,	*Gladstone.*
McMillan, Walter Wilson,	*Biggsville.*
Mamer, Jacob George,	*Odell.*
Marshall, Lewis Monroe,	*Charleston.*
Massey, Esther,	*Virginia.*
Mather, Emery Thomas,	*Joliet.*
Maytag, Elmer Henry,	*Newton, Ia.*
Meharry, Charles Leo,	*Tolono.*
Miller, Chester Branch,	*Champaign.*
Miller, Ethel Claire,	*Lincoln.*
Miller, Guy Garfield,	*Dixon.*
Mills, Ethel Lenore,	*Champaign.*
Morgan, Clarence Leslie,	*Canton.*
Morrison, Elbert Warren,	*Mahomet.*
Mosiman, Levi,	*Morton.*
Moss, Charles Taylor,	*Urbana.*
Munch, Milton William,	*Lovington.*
Murphy, Fred George,	*Lovington.*
Murray, Geneva,	*Maquon.*
Musselman, Claude,	*Danvers.*
Nickell, Lloyd Francis,	*White Heath.*
Noble, Anna Harmount,	*Urbana.*
Nowers, Thomas F,	*Atkinson.*
O'Connor, Tim L,	*Hanson.*
Ohnemus, Albert Andrew,	*Quincy.*
Oldham, Aida Pearl,	*Urbana.*
Olson, Edwin John,	*Granville.*
Page, Elvie Belle,	*Olympia, Wash.*
Parshall, Ralph Ransome,	*Grand Ridge.*
Patterson, Ralph Eric,	*Taylorville.*
Peddicord, Robert,	*Champaign.*
Perreault, Morris Seraph,	*St. Anne.*

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Peterson, Robert,	*Champaign.*
Pettinger, Walter Thomas,	*Cumberland, Ia.*
Pfeffer, Frank,	*Champaign.*
Pillsbury, Charles Stephen,	*Urbana.*
Pitts, Lewis Edgar,	*McLean.*
Postlewait, Harriet Leotine,	*Philo.*
Powell, Linda Marie,	*Welton, Ia.*
Powers, Joseph Christopher,	*Hamilton.*
Prendergast, James Joseph,	*Chicago.*
Pumphrey, Morris,	*Heyworth.*
Queen, Duey Thomas,	*Waverly.*
Ray, Harold Adair,	*Champaign.*
Ray, Howard Alden,	*Libertyville.*
Redmon, Minnie,	*Decatur.*
Remick, Arthur Taylor,	*Trenton.*
Rhoads, Robert Blaine,	*Urbana.*
Rich, Daniel Homer,	*Washington.*
Richardson, Carl Barrows,	*Tampico.*
Ritter, Adah Frances,	*Tuscola.*
Robertson, James Eugene,	*Farmington.*
Robinson, Henry Hallock,	*Grand Ridge.*
Rogers, Edith,	*Windsor.*
Rogers, Josephine,	*Campbell Hill.*
Rolfe, Amy Lucile,	*Champaign.*
Sale, Russell,	*Champaign.*
Sale, Eva Cornelia,	*Champaign.*
Schuppel, Henry Charles,	*Barclay.*
Shaffner, Philip,	*Chicago.*
Shaw, James William,	*Springfield.*
Shepherd, Jacob Husted,	*Urbana.*
Shoemaker, Edwin Raymond,	*McLeansboro.*
Simer, Jerome Kenneth,	*Foxville, Ind.*
Snyder, Elizabeth Vemba,	*Mowequa.*
Spani, Daniel Daminick,	*Benton.*
Staub, Joseph Aaron,	*Terre Haute, Ind.*
Stevens, Parker Gilbert,	*Dwight.*
Stewart, Harvey Gardner,	*Prairie Home.*
Stitt, Harry Wiley,	*Alpha.*
Stowe, Loyd Richard,	*Greenville.*
Strong, Willis Valentine,	*Grand Ridge.*
Strubhar, Louie A.,	*Danvers.*

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Teufel, Louis,	*Victor, Ia.*
Thomas, Alfred Monroe,	*Tampico.*
Thompson, Estelle,	*Prairie Home.*
Tomlinson, Ben,	*Champaign.*
Tracey, Andrew Edward,	*Toluca.*
Trevett, Bessie Harriette,	*Champaign.*
Truman, Edna,	*Urbana.*
Truman, Lenora,	*Urbana.*
Turnbull, Guy Allen,	*Van Orin.*
Unger, Charles Peter,	*Rochelle.*
Wagoner, Edward Owen,	*Elliott.*
Warner, James Madison,	*Chicago.*
Waters, Edward Staniel,	*Morris.*
Wells, Munice Opal,	*Urbana.*
Welshimer, Robert Ross,	*Neoga.*
Williams, Stacy F.,	*Champaign.*
Willson, Morris,	*Murphysboro.*
Winders, Bess May,	*Sycamore.*
Winn, George Lyman,	*Whitehall.*
Winslow, Frederic Hance,	*Jacksonville.*
Wright, William Wilberforce,	*Carthage, Mo.*
Yeomans, Walter Curtis,	*Avon.*
Young, Sadie Grace,	*Bondville.*
Zeller, John George,	*Bushnell.*

SPECIALS IN MUSIC

Anderson, Gertrude A.,	*Mahomet.*
Balch, Harriet Isabel,	*Cerro Gordo.*
Blaisdell, Luola Geneva,	*Champaign.*
Bruffett, Lena,	*Urbana.*
Chester, Maybelle,	*Champaign.*
Craig, Hazel Ione,	*Champaign.*
Doolen, Nannie Elizabeth,	*Vernon.*
Fitton, Catherine Camilla,	*Rantoul.*
Haight, Mabel Almira,	*Mendota.*
Hand, Mabel Mary,	*Champaign.*
Henion, Myra,	*Urbana.*
Hutchinson, Belle Anna,	*Odell, Neb.*
Karnopp, Esther May,	*Champaign.*
Knight, Jessie Mildred,	*Urbana.*
Lindley, Etheldred Frank,	*Urbana.*
Lott, Eva Alberta,	*Urbana.*

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McClurg, Cora Ada,	*Urbana.*
Mudge, Gertrude E.,	*Homer.*
Nuckolls, Mary Elizabeth,	*Urbana.*
Reeves, Fanny Steadman,	*Champaign.*
Renfrew, Clara,	*Urbana.*
Smith, Laura Ethel,	*Indianola.*
Stevenson, Bessie Katherine,	*Urbana.*
Wells, Lillian Anna,	*Urbana.*
Williams, Roy,	*Monticello.*

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SUMMARY OF STUDENTS—1901-1902

	Men.	*Women.*	*Total.*
GRADUATE SCHOOL	67	7	74
UNDERGRADUATE COLLEGES—			
Seniors	130	46	176
Juniors	124	90	214
Sophomores	206	65	271
Freshmen	261	104	365
Specials	115	73	188
	836	378	1214
SPECIALS IN AGRICULTURE	138		138
SPECIALS IN HOUSEHOLD SCIENCE		9	9
SUMMER TERM	132	72	204
COLLEGE OF LAW—			
Third year	23	1	24
Second year	29	1	30
First year	44		44
Specials	16		16
	112	2	114
COLLEGE OF MEDICINE—			
Seniors	228	18	246
Juniors	168	15	183
Sophomores	135	8	143
Freshmen	115	5	120
Specials	12	4	16
	658	50	708
SCHOOL OF DENTISTRY—			
Seniors	42	1	43
Juniors	32		32
Freshmen	55	4	59
	129	5	134
SCHOOL OF PHARMACY—			
Seniors	53	1	54
Juniors	100		100
	153	1	154
PREPARATORY SCHOOL	177	90	267
	2402	614	3016
Deduct counted twice	62	22	84
Total in University	2340	592	2932

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DEGREES.

Commencement Day, June 12, 1901, degrees were conferred as follows:

A.B.

James Howard Armitage.
Donald Herbert Bailey.
Aneta Baldwin.
Faith Leland Bardwell.
Arthur Timothy Bell.
Alice Mary Black.
Laura Louise Black.
Claude Porter Briggs.
Ashton Ellsworth Campbell.
Charles Cory Chamberlin.
Edward Pierce Chapin.
Charles Hiram Chapman.
Margaret Belle Chester.
Philip Arthur Conard.
George Marshall Crossland.
Mary Belle Davis.
Nellie Elizabeth Detrick.
Gertrude Sempill Dillon.
Mason McCloud Fishback.
Charles Wilber Franks.
Nellie May Frazey.
Grace Ann Garnett.
Joseph Hinckley Gordon.
Frances Myrtle Green.
Charles Thomas Greene.
Harry Norman Gridley.
Edna Rose Hammers.
Jesse Hammers.
Lawrence Seymour Heath.
Ida May Hinkle.
Mabel Hopkins.
Harlan Hoyt Horner.
Daisy Dean Iddings.
James Edward Johnson.
Frances Emily Kelley.
Albert Edward Jones.
Katherine Alberta Layton.
Walter Charles Lindley.
Fred Lowenthal.
Corda Candes Lucas.
Eugene Adolphus McCall.
Robert William Martin.
Annie Mitchell.
Gunther Nichols.
Charles Waterman Norton.
Edna Elizabeth O'Hair.
Nuba Mitchell Pletcher.
Nellie Lewis Read.
Robert Earl Richardson.
Josephine Schillinger.
Mabel Schulte.
Frank William Scott.
Walter Campbell Short.
Bruce Smith.
George Carroll Smith.
John Harris Strawn.

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Carrie E. Talbot.
Effie May Tull.
Seymour Williams.

Albert Miller Allen.
Frank Gilbert Allen.
Horatio Weber Baker.
Arthur Franklin Barnett.
Edgar Deforest Bell.
Frederick Joel Bird.
Frederick Gordon Bonser.
Edward Parkman Boyd.
Ellis Freeman Bracken.
Lewis Frederick Brayton.
James William Buchanan.
Jay Horace Burdick.
Henrietta Anne Calhoun.
George Russell Carr.
Willis Cullem Chipps.
Guy Richard Collins.
Lawrence Everett Curfman.
Roy Hodgson Dillon.
Edward Murray East.
Arthur Donaldson Emmett.
Clark Hughes Fellingham.
Frank G Frost.
Edward James Fucik.
Henry Allan Gleason.
Howard Tyler Graber.
Augustus Harry Griswold.
Lewis Edwin Griswold.
Dale Stuart Harrison.
Guy Russell Hartrick.
Louis Eugene Hartrick.
Carl Hays.
Byron Wallace Hicks.
Arthur Casson Hobble.
Charles Albert Hoppin.
Oscar Lloyd Housel.
Harry Edgar Hunter.
John Edward Kemp.
Winifred Sue Williams.
Sidney Walter Wright.

B.S.

Harlow Barton Kirkpatrick.
Adolph Kreikenbaum.
John Rudolph Lotz.
Frank Lewis Lyman.
Ernest Barnes Lytle.
Roscoe McCormick.
Fred Leavitt McCune.
John Wallace McLane.
William Meier.
Rutherford Thomas Miles.
William Pitt Miller.
Timothy Mojonnier.
Jesse J Myers.
Olof Anton Nilsson.
Wilbur Perry Norton.
Frederick Phillips Patrick.
William Hickman Radcliffe.
Walter Thornton Ray.
George William Redfield.
Curt August Schroeder.
Aaron Trabue Simmons.
Edward Clyde Slocumb.
Alfred Higgins Sluss.
Percy Almerin Smith.
Otis Orion Stanley.
Ralph Ewing Stevenson.
Miles Vincent Stewart.
Louis Liston Tallyn.
William Anton Theodorson.
David Carroll Veirs.
Henry Wahl.
Ernest Ludden Wait.
Harry Jackson Warner.
Winthrop Selden Welles.
Charles Earl Wetherbee.
Ralph Joseph Williams, A.B.

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LL.B.

Bertram Wilson Adsit.
William Wright Arnold.
John William Boyd.
Harry Augustus Coffman.
William Liebrick Crouch.
Roy Samuel Elder.
Hattie Belle Frahm.
Arthur Raymond Hall.
George Mifflin Harker.
Frank Hamilton Holmes.
Joseph Howard.
Wallace George Humphrey.
Louis Armand Lamet.
Harvey Darling McCollum.
Frederic Allen Perkins.
Frederick Gordon Remann.
William Horace Sherman.
Amos Milton Stevenson.
George Mershon Thompson.
John James Tunnicliff, Jr.

B.L.S.

Minnie Clark Bridgman.
Jessie Anna Carroll, A.B.
Florence Emeline Carter.
Adelaide Maria Chase.
Agnes Mary Cole, B.S.
Clara Elizabeth Howard.
Flora Dorothy Hurlbert.
Fannie Ella Jones.
Mary Harriet Kittredge.
Stacia Livingston.
May Louise Martin.
Amy Constance Moon.
Mabel Reynolds.
Lorinda Ballou Spellman.
Mary Estelle Todd.
Florence Sherwood Wing.

A.M.

Alice Mary Black.
Joseph Hinckley Gordon.
Elizabeth Twining Hall.
Helen Louise McWilliams.
Mason Harder Newell.
Fred Earle Newton.
William Gay Palmer.
Lewis Archibald Robinson.
Elias Herbert Wells.

M.L.

Velma Skinner Ward.

M.E.

Edd Charles Oliver.
Bernard Victor Swenson.

E.E.

Harry Curtiss Marble.

M.S.

Wallace Craig.
Jennie Mary Latzer.
Adam Vause Millar.
Allen Meade Otwell.
Charles Albert Walter.

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At the Commencement of the College of Medicine, May 28, 1901, degrees were conferred as follows:

M. D.

Eugene Scott Alexander.
William Henry Amerson, M.D.
Andrew James Ames.
David Apfelbaum.
Frederick Baumann, A.M., Ph.D.
Charles Orville Bechtol, A.B.
Henry Sumner Bennett.
Arthur Edwin Beyer, Ph.G.
George Washington Billig, M.D.
John William Birk.
Jacob Henry Boss.
George Francis Bracken.
James Harvey Bradfield.
Edwin Jason Brewer, B.S.
Frederick Edward Albert Buechner, Ph.G.
Edward Wilbur Burke.
Charles Ward Burt, B.S.
Francis James Buss.
Warren Leonard Cameron.
Cora White Carpenter.
John Langdon Chassell.
Elmer Church.
Leslie Webb Clarke.
Hugh Patrick Conway.
George William Corbett, Ph.G.
Budd Clarke Corbus.
Walter Bennett Cory.
Warner Ransom Coumbe.
Warren DeWeese Coy, B.S., M.D.
Louise Lockwood Culver.
William Dickson Cunningham.

A.B.

Ralph Clinton Cupler, Ph.G.
Frank Dennert.
Alden Ray Denny, Ph.B.
George Raphield Diven.
Charles Augustus Dodson.
George Dohrmann.
Walter Amizi Domer, B.S.
Alfred DeForest Donkle, Ph.G.
John Condit Dwyer.
Noble Murray Eberhart, M.S., M.D.
Edward Glennon English.
John Adolph William Fernow, Ph.G.
Mortimer Frank, B.S., C.E.
George Marion French.
George Galloway.
Isabella Maude Garnett.
Edward Francis Garraghan, A.B.
Talbot John Howe Gorrell.
Henrietta Gould.
Joseph Ansley Gustafson.
George Haan.
John William Hanshus, Ph.G.
Ernest Samuel Heilman.
Edward Lewis Heintz, Ph.G.
George Murray Henbest.
William Clarence Hess.
Lewis Dewitt Hews.
Bernhard Alfred Hoermann, A.B.
William Peter Hombach.
Frank Stewart Howe, B.S.
Robert Patton Hoxsey, B.S.
Chester William Hubbard.
Hiram Henry Hunt.
Henry Eugene Irish.
Melvin Jacobs.
Albert Cowell Johnson.
Cecil Corwin Johnson.
Marion Sparehawk Jordan.
Albert Frederick Kaeser, B.S.

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James Rossiter Kellogg.
Josie Cecilia Kennedy.
George Peter Kerrigan.
Roscoe George William Kinder.
David Edgar Kisecker, M.D.
Wesley Alfred Koch.
Albert Charles Kubicek, M.D.
Henry George Lampe.
Derk Lanting.
Herbert Lemon, M.D.
Aloysius Joseph Lennon.
Henry Sylvester Leonard, A.B.
Flemming Loureston Liggitt.
Frank Byn Ling.
Zack Little.
Carl Wright Lockhart, Ph.G.
Frank Roy Loope.
George John Lorch, Ph.G.
Henry Eberhart Luehrs.
Andrew McAuliffe.
Harry Kenyon McCall.
Clarence McClellan, D.V.S.
William Merrill McCoy.
Robert McDonald.
William David McDowell, B.S.
William Orren McDowell.
James McGuinn.
Warren Gordon McPherson.
Will Major, B.S.
Hugh Ralph Martin.
Winfred Byrum Martin.
John Cunningham Maxwell.
Lawrence Harland Meadows.
Edward Frederick Meyer, M.D.
John Moradian, M.D.
Frank Roy Morton.
Engelbrecht Nelson.
William Manning Newman.
Charles Montague Noble.
Philip Noland, M.D.
Clifford Irwin Oliver.
Dwight Chapman Orcutt.
John Mathiew Palmer.
William Parker, Ph.G.
Ivan Arthur Parry.
Hans Peter Christian Petersen, A.B., Ph.G., M.D.
Franklin Petry.
Vera Wallen Pleth.
Nina Polson.
Irene Robinson Pratt.
Ora Marcus Rhodes, B.S.
Katherine Brainerd Rich.
Joseph Elmer Ridenour.
George Roy Ringo, A.M., C.E.
William Fernando Robertson.
Theodore Henry Rolfs.
Edward Daniel Sage.
Theodore William Scholtes.
Charles James Scofield.
Charles Edwin Sears.
Mathias Joseph Siefert.
Will Severson.
James Wilson Shanks.
Robert Henry Shaw.
Hauphrey Helm Sherwood, Ph.G.
William Edward Shook.
Irene Smedley, A.B.
Hugh Emery Smith.
James Tyler Smith.
Erik Soegaard.
Julius Charles Sommers.
Walter Sternberg.
Hiram Read Stilwill, M.D.
Alvin Martin Stober.
William Storck, Ph.G.
Edwin August Streich, Ph.G.
Herbert Rankin Struthers, Ph.G.
George Gordon Talmage.
Martha Burine Thorwick.
Charles Peter Tilmont.
Frederick Treacy.

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Agnes Turner.
Delos Ashley Turner.
Julius Hirsch Ulrich, Ph.G.
Roy Thomas Urquhart.
James Apthorp VanHorne.
Victor Immanuel Vestling, A.B.
Franklin Lanphere Wallace.
Bismarck von Wedelstaedt.
William Burdick Wells, M.S.
Fred Caldwell Wheat, B.S.
Bertha Lillian Willing.
Charles Oscar Wiltfong.
Anna Sophia Windrow.
Charles Ely Wright, D.V.S.
Winifred Arene Yelton.
Joseph Zabokrtsky.

At the Commencement of the School of Pharmacy, April 25, 1901, degrees were conferred as follows:

PH. G.

Harry Lawrence Marie Bank.
Ira Clark Bradley.
William Jefferson Briggs.
Fred Blaine Clarke.
James Henry Crew.
Peter Czaja.
William Downey.
William Robert Englert.
Edwin Everett.
Roscius Wright Freeman.
Harry William Giese.
Alexander Glogau.
Maude Alma Gregg.
George Henry Hamer.
Henry Hartig.
Maude Finley Hobart.
Daniel Joseph Hogan.
Charles Howk.
George Smith Ives.
Eli Jensen.
Robert August Karr.
George Henry Lyons.
Joseph Donald McDougall.
Frederick William Mayo.
Frank Leslie Newman.
Richard Lisle Oliver.
Charles William Parker.
Benjamin Perry.
Enoch Fred Peterson.
Fred Lewis Pfaff.
William Robetoy Phillips.
Moses Reuben Price.
Frank Joseph Randack.
Albert Reighmann.
William Anthony Rennen.
William Robert Rodenhauser.
Anton Roesch.
Marvin Bird Cleo Rounds.
Herman Anton Salchert.
John Jacob Samuels.
Walter Johan Schaefer.
Charles Frank Ralph Schaffarzick.
Charles Frank Schultz
Arthur Henry Schulze.
Morris Albert Shapiro.
Vincent Howard Shaw.
Edward Henry Stahl.
John Clyde Swan.
Frank Elijah Swartz.

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Bond,	Wooleson, Herbert H.,	*Belleville.*
Bond,	Morey, Henry H.,	*Greenville.*
Boone,	Dake, Leroy G.,	*Harvard.*
Bureau,	Cook, William A.,	*Urbana.*
Bureau,	Gillham, Philip D.,	*Princeton.*
Bureau,	Olson, Edwin J.,	*Granville.*
Carroll,	Renner, Edwin T.,	*Lanark.*
Cass,	Gallaher, George P.,	*Mt. Palatine.*
Champaign,	Draper, Charlotte E.,	*Urbana.*
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Clark,	Hunter, Lum,	*Paris.*
Clark,	Tennery, Redick,	*Marshall.*
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Cook, 1st District,	Berger, John M.,	*Dolton.*
Cook, 3d District,	McRobie, Isabel,	*Chicago.*
Cook, 6th District,	Schmidt, Ellen,	*Chicago.*
Cook, 7th District,	Hoff, Edna D.,	*Chicago Heights.*
Cook, 7th District,	Kasten, Frederick W.,	*Dolton Station.*
Cook, 11th District,	Bradshaw, Jessie I.,	*Chicago.*

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Cook, 21st District,	Mueller, Walter H.,	*Chicago.*
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Crawford,	Janssen, Otto,	*Champaign.*
Cumberland,	Stephenson, Lewis A.,	*Redmon.*
DeKalb,	Eide, Torris,	*Lee.*
DeWitt,	Noe, Samuel R.,	*Milmine.*
Douglas,	Williams, Mary E.,	*Newman.*
Douglas,	Knapp, Noah,	*Hindsboro.*
Edgar,	Thompson, McDonald,	*Isabel.*
Edgar,	Dayton, Laura,	*Paris.*
Edgar,	Cusick, John F.,	*Chrisman.*
Edwards,	Burggraf, Carl I.,	*Tuscola.*
Effingham,	Kincaid, Stewart W.,	*Effingham.*
Ford,	Barr, John,	*Urbana.*
Fulton,	Whitehouse, Edith U.,	*Canton.*
Grundy,	Rose, Fred W.,	*Mazon.*
Grundy,	Ely, Hamlin M.,	*Mazon.*
Hamilton,	Fairweather, Chas. A.,	*Hoodville.*
Hancock,	Smith, Roy,	*Colusa.*
Hancock,	Worrell, Joseph C.,	*Chili.*
Henderson,	McMillan, Edward A.,	*Biggsville.*
Henderson,	McMath, Roscoe A.,	*Gladstone.*
Henry,	Randall, Frank A.,	*Cambridge.*
Iroquois,	Meyer, Robert C.,	*Gilman.*
Iroquois,	Crandall, Grace E.,	*Mendota.*
Jackson,	Scherer, Josephine,	*Murphysboro.*
Jersey,	Caton, Charles H.,	*Ottawa.*
Jo Daviess,	Leverton, Ernest R.,	*Warren.*
Jo Daviess,	Sype, George,	*Fairbury.*
Johnson,	Hook, Henry H.,	*Vienna.*
Jasper,	Dickerson, Oliver M.,	*West Liberty.*
Kane,	Salb, Albert,	*Elgin.*
Kane,	Hinman, Glidden,	*Dundee.*
Kankakee,	Zartman, Lester W.,	*Grant Park.*
Kankakee,	Perreault, Morris,	*St. Anne.*

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Livingston,	Bronson, George H.,	*Odell.*
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McHenry,	Gilkerson, Aletha,	*Urbana.*
McHenry,	Stevens, Lucia A.,	*Marengo.*
McHenry,	Renich, Edward A.,	*Woodstock.*
McLean,	Barnhart, Charles A.,	*Mansfield.*
Macon,	Davis, Cleon L.,	*Mt. Zion.*
Macon,	Crawford, David M.,	*Champaign.*
Macoupin,	Turner, Charles P.,	*Hillsboro.*
Madison,	Stocker, Clarence H.,	*Highland.*
Marion,	McCullough, John F.,	*Centralia.*
Marshall,	Munsen, Andrew,	*Ohio.*
Mason,	Warnock, Arthur R.,	*Mason City.*
Menard,	Sims, Charles E.,	*Lincoln.*
Mercer,	Drury, Ralph S.,	*New Boston.*
Monroe,	McNeill, Roscoe P.,	*Greenville.*
Montgomery,	Chacy, Anna O.,	*Hillsboro.*
Morgan,	Kennedy, Helen T.,	*Jacksonville.*
Moultrie,	Harshman, Lucius R.,	*Sullivan.*
Moultrie,	Rose, Webster B.,	*Windsor.*
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Ogle,	Richey, John J.,	*Polo.*
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Peoria,	Engstrom, Roy V.,	*Peoria.*
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Putnam,	Hopkins, Ruby C.,	*Granville.*
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Tazewell,	Armeling, Carl E.,	*Mason City.*
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Vermilion,	Smith, Edwin R.,	*Hope.*
Warren,	Malcolm, Charles W.,	*Roseville.*
Warren,	Day, Winfield S.,	*Roseville.*
Will,	Reeves, George I.,	*Wauponsee.*
Williamson,	Gore, Adolph,	*Marion.*
Winnebago,	Johnson, Albert M.,	*Kishwaukee.*
Winnebago,	Penfield, Albert C.,	*Rockford.*
Winnebago,	Derwent, Everett F.,	*Pecatonica.*

AGRICULTURAL SCHOLARSHIPS

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Alexander,	McClure, Ara M.,	*Manhattan.*
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Brown,	Mobley, William D.,	*Mt. Sterling.*
Bureau,	Wilson, Leroy,	*Princeton.*
Bureau,	White, Jesse H.,	*Princeton.*
Calhoun,	Henness, William Z.,	*Champaign.*
Carroll,	Woodin, Jason,	*Polo.*
Cass,	Jones, James H.,	*El Dara.*
Cass,	Bartholomew, Roy,	*Vermont.*
Champaign,	Howe, Ralph B.,	*Urbana.*
Champaign,	Adair, James W.,	*Tolono.*
Christian,	Dalby, Dwight S.,	*Taylorville.*
Christian,	Large, Harry,	*Millersville.*
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Clay,	Brissenden, Lewis A.,	*Flora.*

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Crawford,	Apple, John E.,	*Robinson.*
Cumberland,	Peddicord, Raymond N.,	*Marseilles.*
DeWitt,	Bronson, Eugene V.,	*Urbana.*
DeWitt,	Capen, Bernard C.,	*Bloomington.*
DeKalb,	Rector, John F.,	*Smithfield.*
Douglas,	Goodspeed, Wilber F.,	*Tuscola.*
Douglas,	McCarty, William F.,	*Tuscola.*
DuPage,	Taylor, Albert B.,	*Normal.*
DuPage,	Everett, Charles W.,	*Harvard.*
Edgar,	Clapp, Ivan B.,	*Grand View.*
Edgar,	Gillespy, George A.,	*Paris.*
Edwards,	Coons, Clarence W.,	*Bloomington.*
Edwards,	Leonard, Herman T.,	*Decatur.*
Effingham,	Spitler, John C.,	*Montrose.*
Fayette,	Tenney, Walter E.,	*Bloomington.*
Ford,	Alford, Irving S.,	*Sibley.*
Ford,	Anderson, George T.,	*Sibley.*
Franklin,	Rankin, William J. R.,	*White Heath.*
Franklin,	Lucas, Morgan,	*Easton.*
Fulton,	Lloyd, Robert C.,	*Canton.*
Fulton,	Cattron, John W.,	*Fairview.*
Fulton,	Kidder, Albert F.,	*Farmington.*
Gallatin,	Winterberger, Ralph,	*Junction.*
Gallatin,	Mountjoy, Oscar F.,	*Atlanta.*
Greene,	Funk, Julius F.,	*Bloomington.*
Grundy,	Burbank, Harry F.,	*Woodstock.*

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Hamilton,	Chambers, Ralph E.,	*Sadorus.*
Hancock,	Baker, Walter E.,	*Danville.*
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Hardin,	Griswold, Harry E.,	*Blue Mound.*
Henderson,	Beal, Perry L.,	*Reed.*
Henderson,	Conard, Clyde,	*Monticello.*
Henry,	Stitt, Harry W.,	*Alpha.*
Henry,	Allison, Harry O.,	*Alpha.*
Iroquois,	Flagg, David R.,	*Clarence.*
Iroquois,	Mann, Charles J.,	*Gilman.*
Jackson,	Wells, Fred M.,	*Moline.*
Jackson,	Ziegler, Wilfred I.,	*Clinton.*
Jackson,	Douglass, Orville, V.,	*Shirley.*
Jasper,	Dobson, Philip H.,	*Cerro Gordo.*
Jefferson,	Haight, Samuel J., Jr.,	*Mendota.*
Jefferson,	Musgrove, Fred G.,	*Vermont.*
Jersey,	Massie, Stuart M.,	*Colusa.*
Jo Daviess,	Moore, Frank C.,	*Polo.*
Johnson,	Hedges, Samuel R.,	*Urbana.*
Johnson,	Wright, Herman F.,	*Vienna.*
Kane,	Watson, Clarence C.,	*Woodstock.*
Kane,	Gilkerson, Thomas J.,	*Hampshire.*
Kankakee,	Issert, Jules P.,	*Manteno.*
Kankakee,	Porter, Edward A.,	*Momence.*
Kendall,	McClelland, Robert A.,	*Yorkville.*
Kendall,	Ocock, Charles A.,	*Marengo.*
Knox,	Mitchell, Maurice F.,	*Oneida.*
Knox,	McKeighan, James L.,	*Yates City.*
Lake,	White, William E.,	*Millburn.*
LaSalle,	Center, Orlo D.,	*Grand Ridge.*
LaSalle,	Funk, Frank F.,	*Ottawa.*
Lawrence,	Readhimer, Jerome E.,	*Champaign.*
Lawrence,	Douglass, Donald P.,	*Colfax.*
Lee,	Butler, Elmer F.,	*Amboy.*
Livingston,	Spence, William D.,	*Fairbury.*
Livingston,	Rothgeb, Claude J.,	*Milford.*
Logan,	Crocker, Paul H.,	*Springfield.*
McHenry,	Ocock, Clarence H.,	*Marengo.*
McDonough,	Null, Samuel F.,	*Blandinsville.*
McDonough,	Miner, Aaron W.,	*Adair.*

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McDonough,	Miner, James H.,	*Adair.*
McLean,	Creamer, William C.,	*Tolono.*
McLean,	Brand, George W.,	*Bloomington.*
Macon,	Camp, Harry H.,	*Harristown.*
Macoupin,	Cary, Spencer A.,	*Towanda.*
Marion,	Swayze, Fred E.,	*Salem.*
Marshall,	Betzelberger, George J.,	*Delavan.*
Mason,	Baldwin, Frank,	*Ipava.*
Massac,	Clarke, James W.,	*Sciota.*
Menard,	Culver, Carl A.,	*Athens.*
Menard,	Kincaid, James E.,	*Athens.*
Mercer,	Clay, John L.,	*Galesburg.*
Mercer,	Kinney, Elmer H.,	*Collison.*
Monroe,	McCarty, John,	*Arcola.*
Monroe,	Wisegarver, William H.,	*Savoy.*
Morgan,	Shaw, Guy L.,	*Summer Hill.*
Morgan,	O'Neal, Fred R.,	*Arnold.*
Moultrie,	Fletcher, Marion,	*Dalton City.*
Ogle,	Carmichael, Burton E.,	*Rochelle.*
Ogle,	Woodin, Dennis E.,	*Polo.*
Perry,	Braden, Clarence A.,	*Cutler.*
Piatt,	Wise, Lewis W.,	*Cerro Gordo.*
Pike,	Stebbins, Roy,	*Summer Hill.*
Pike,	Shaw, Lloyd B.,	*Summer Hill.*
Pope.	Wellman, William A.,	*Golconda.*
Pulaski,	Conant, Thaddeus,	*Villa Ridge.*
Putnam,	Copes, Fletcher,	*Green Valley.*
Randolph,	Meharry, Edwin T.,	*Tolono.*
Richland,	Stookey, Marshall C.,	*Harristown.*
Richland,	Scherer, Frank O. H.,	*Olney.*
Rock Island,	Armstrong, Robert M.,	*Preemption.*
St. Clair,	Eidmann, Gustav H.,	*Mascoutah.*
St. Clair,	Hill, Arthur H.,	*Dundee.*
St. Clair,	Garwood, Frank S.,	*Stonington.*
Saline,	Johnston, Ora B.,	*Lexington.*
Sangamon,	Ladage, Fred W.,	*Woodside.*
Sangamon,	Hayes, Gus W.,	*Pleasant Plains.*
Schuyler,	Thompson, James A.,	*Layton.*
Schuyler,	Webb, Dwight E.,	*Mound.*
Scott,	Constant, Irwin J.,	*Dawson.*
Scott,	Anderson, Leslie L.,	*Summer Hill.*

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Tazewell,	Darling, Charles E.,	*Green Valley.*
Union,	Minto, David H.,	*Loon Lake.*
Vermilion,	LeFever, George W.,	*Fithian.*
Wabash,	Lingenfelter, Lee E.,	*Mt. Carmel.*
Wabash,	Hardin, Thomas,	*Homer.*
Warren,	Scott, Gilbert W.,	*Franklin.*
Warren,	Pitts, Ralph L.,	*McLean.*
Washington,	Hinkley, Henry O.,	*Dubois.*
Wayne,	Callaway, Leonard W.,	*Tuscola.*
Wayne,	Angle, Ray M.,	*Dakota.*
White,	Michael, Chester A.,	*Pilot.*
Whiteside,	Thompson, Willis E.,	*Erie.*
Will,	Shepherd, Fred A.,	*Fairmount.*
Williamson,	Trapp, William E.,	*Lincoln.*
Williamson,	Basting, Fred,	*Yuton.*
Winnebago,	Good, Roy C.,	*Haldane.*
Woodford,	Carrithers, Calvin L.,	*Washburn.*

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Champaign,	Dunlap, Nora B.,	*Savoy.*
Champaign,	Lemon, Mattie A.,	*Urbana.*
DeWitt,	Miller, Nellie A.,	*Urbana.*
Douglas,	Wardall, Ruth A.,	*Tuscola.*
Ford,	Creamer, Lida E.,	*Tolono.*
Fulton,	Kidder, Annie S.,	*Farmington.*
Henry,	Greep, Orpha E.,	*Galva.*
Livingston,	Lefler, Anna B.,	*Pontiac.*
McDonough,	Risser, Ruby,	*Scottsburg.*
Madison,	Riehl, Anna,	*Alton.*
Montgomery,	Turner, Ida E.,	*Butler.*
Ogle,	Upton, Mabel E.,	*Rochelle.*
Peoria,	Varnes, Emma Mamie,	*Farmington.*
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Reported to the Adjutant General, United States Army, as distinguished Cadets, for the purpose of having their names published in the Register of the U. S. Army: Walter Campbell Short, Charles Hiram Chapman, Charles Earle Wetherbee.

WINNER OF THE HAZELTON PRIZE MEDAL, 1901

Raebern Henry Post.

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Lieutenant Colonel	H. F. Post.
Major 1st Battalion	G. I. Reeves.
Major 2d Battalion	E. L. Draper.
Captain and Adjutant	J. F. Duffy.
Battalion Adjutant (1st B.) (1st Lieut.)	C. E. Kelso.
Battalion Adjutant (2d B.) (1st Lieut.)	J. C. Jones.
Sergeant Major	R. H. Post.
Color Sergeant	T. Eide.
Color Sergeant	G. H. Rump.
Drum Major	H. C. Morse.
Chief Trumpeter	L. H. Maxfield.
Battalion Sergeant Major (1st)	F. E. Ostrander.
Battalion Sergeant Major (2d)	W. K. Wiley.

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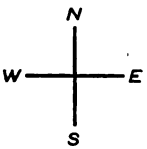
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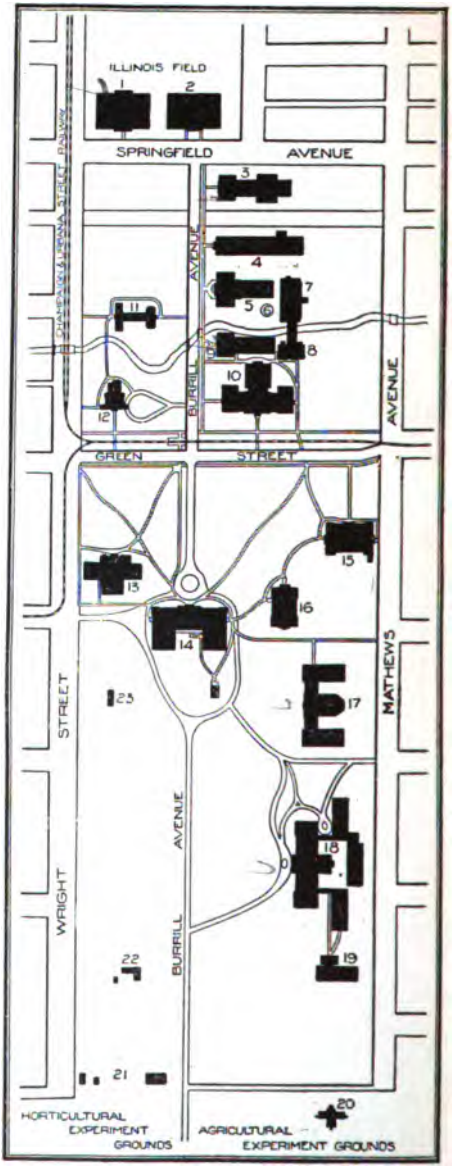
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PUBLISHED BY THE UNIVERSITY
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THE UNIVERSITY CALENDAR

1903-1904

Sept. 9, 1903, to Jan. 27, 1905

FIRST SEMESTER

1903	
Sept. 9, Wednesday.	Entrance Exanimations begin.
Sept. 14, 15, Monday and Tuesday.	Registration days.
Sept. 16, Wednesday.	Instruction begins.
Nov. 2, Monday.	Latest date for announcing Subjects of Theses.
Nov. 26, Thursday.	Thanksgiving Day.
Dec. 19, Saturday.	Holiday Recess begins.
1904.	
Jan. 5, Tuesday.	Instruction resumed.
Jan. 29, Friday.	First Semester ends.

SECOND SEMESTER

Feb. 1, Monday.	Instruction begins.
May 11, 12, 13, Wednesday to Friday.	University High School Conference.
May 13, Friday evening.	Interscholastic Oratorical Contest.
May 12, 13, 14, Thursday to Saturday.	Public School Art Exhibit.
May 14, Saturday.	Interscholastic Athletic Meet.
May 23, Monday.	Hazelton Prize Drill.
May 24, Tuesday.	Competitive Drill.
May 27, Friday.	Latest Day for Acceptance of Theses.
June 5, Sunday.	Baccalaureate Address.
June 6, Monday.	Class Day.
June 7, Tuesday.	Alumni Day.
June 8, Wednesday.	Thirty-second Annual Commencement.

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FIRST SEMESTER

Sept. 7, Wednesday.	Entrance Examinations begin.
Sept. 12, 13, Monday and Tuesday.	Registration Days.
Sept. 14, Wednesday.	Instruction begins.
Oct. 31, Monday.	Latest date for Announcing Subjects of Theses.
Nov. 24, Thursday.	Thanksgiving Day.
Dec. 21, Wednesday.	Holiday Recess begins.
1905.	
Jan. 3, Tuesday.	Instruction resumed.
Jan. 27, Friday.	First Semester ends.

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DAVID MAHLON CATTELL, D.D.S., Professor of Operative Dentistry and Operative Technics. *Reliance Building.*

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SCHOOL OF PHARMACY

[465-467 State Street, Chicago.]

FACULTY

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STATE LABORATORY OF NATURAL HISTORY

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923 West Green Street, U.
MARY JANE SNYDER, Secretary. *504 East Daniel Street, C.*
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AGRICULTURAL EXPERIMENT STATION

STATION STAFF

PROFESSOR EUGENE DAVENPORT, M.AGR., DIRECTOR.
Experiment Station Farm, U.

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UNIVERSITY OF ILLINOIS

LOCATION

The University of Illinois is situated in Champaign County, in the eastern central part of the state, between the cities of Urbana and Champaign, and within the corporate limits of the former. It is one hundred and twenty-eight miles south of Chicago, at the junction of the Illinois Central, the Cleveland, Cincinnati, Chicago and St. Louis, and the Wabash, railroads. The country around is a rich and prosperous agricultural region. The cities of Urbana and Champaign have, together, a population of about 15,000.

HISTORY

In 1862 the national government donated to each state in the Union public land scrip in quantity equal to 30,000 acres for each senator and representative in congress, "for the endowment, support and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts * * * in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

On account of this grant the state pays the University, semi-annually, interest at the rate of five per cent. on about $610,000, and deferred payments on land contracts amount, approximately, to $35,000.

To secure the location of the University several counties

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entered into competition by proposing to donate to its use specified sums of money, or their equivalent. Champaign County offered a large brick building in the suburbs of Urbana, erected for a seminary and nearly completed, about 1,000 acres of land, and $100,000 in county bonds. To this the Illinois Central Railroad added $50,000 in freight. The General Assembly accepted this offer May 8, 1867.

The state has from time to time appropriated various sums for permanent improvements, as well as for maintenance. The present value of the entire property and assets is estimated at $2,600,000.

The institution was incorporated February 28, 1867, under the name of the Illinois Industrial University, and placed under the control of a Board of Trustees, constituted of the Governor, the Superintendent of Public Instruction and the President of the State Board of Agriculture, as *ex-officio* members, and twenty-eight citizens appointed by the Governor. The chief executive officer was called Regent, and was made an *ex-officio* member of the Board and presiding officer both of the Board of Trustees and of the Faculty.

In 1873 the Board of Trustees was reorganized, the number of appointed members being reduced to nine and of *ex-officio* members to two—the Governor and the President of the State Board of Agriculture. In 1887 a law was passed making membership elective, at a general state election, and restoring the Superintendent of Public Instruction as an *ex-officio* member. There are, therefore, now three *ex-officio* and nine elective members. Since 1873 the President of the Board has been chosen by the members from among their own number for a term of one year.

The University was opened to students March 2, 1868. The number of students enrolled at this time was about fifty, and the Faculty consisted of the Regent and three professors. During the first term another instructor was added, and the number of students increased to 77—all young men.

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During the first term instruction was given in algebra, geometry, physics, history, rhetoric, and Latin. Work on the farm and gardens, or about the buildings, was at first compulsory for all students. In March of the next year, however, compulsory labor was discontinued, save when it was made to serve as a part of class instruction. A chemical laboratory was fitted up during the autumn of 1868. Botanical laboratory work began the following year. In January, 1870, a mechanical shop was fitted up with tools and machinery, and here was begun the *first shop instruction* given in any American university. During the summer of 1871 the Wood Shops and Testing Laboratory, burned June 9, 1900, was erected and equipped for students' shop work in both wood and iron.

By vote, March 9, 1870, the Trustees admitted women as students. During the year 1870-71 twenty-four availed themselves of the privilege. Since that time they have constituted from one-sixth to one-fifth of the total number of students.

According to the original state law, the usual diplomas and degrees could not be granted by the University, but certificates showing the studies pursued and the attainments in each were given instead. The certificates proved unsatisfactory to the holders, and in 1877 the legislature gave the University authority to confer degrees and issue diplomas.

In 1885 the legislature changed the name of the institution to the "University of Illinois." It also passed a bill transferring the *State Laboratory of Natural History* from the Illinois State Normal University to the University of Illinois. This laboratory was created by law for the purpose of making a natural history survey of the state, the results of which should be published in a series of bulletins and reports, and for the allied purpose of furnishing specimens illustrative of the flora and fauna of the state to the public schools and to the state museum. For these purposes direct appropriations are made by the legislature from session

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to session. A large amount of material has been collected, and extended publications have been made in both the forms above mentioned.

By an act approved March 2, 1887, the national government appropriated $15,000 per annum to each state for the purpose of establishing and maintaining, in connection with the colleges founded upon the congressional act of 1862, agricultural experiment stations, "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." Under this provision the *Agricultural Experiment Station* for Illinois was placed under the direction of the Trustees of the University, and a part of the University farm, with buildings, was assigned for its use. At least one bulletin of results is published every three months, and the copies are gratuitously distributed over the state. Editions of 24,000 copies are now issued.

In 1890 the Congress of the United States made further appropriations for the endowment of the institutions founded under the act of 1862. Under this enactment each such college or university received the first year $15,000, the second $16,000, and thereafter was to receive $1,000 per annum additional to the amount of the preceding year, until the amount reached $25,000, which sum was to be paid yearly thereafter.

May 1, 1896, *the Chicago College of Pharmacy*, founded in 1859, became the *School of Pharmacy of the University of Illinois*. Its rooms are at 465 State Street, Chicago.

At the meeting of the Board of Trustees of the University held December 8, 1896, upon recommendation of the President of the University, the Trustees voted to take steps for the organization of a law school. Appropriations were made for salaries, for the purchase of books, and for incidental expenses. Pursuant to this action of the Board of Trustees, the *School of Law* was organized, and opened

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September 13, 1897. The course of study covered two years, in conformity with the existing requirements for admission to the bar of Illinois. In the following November, however, the supreme court of the state announced rules relating to examinations for admission to the bar which made three years of study necessary, and the course of study in the Law School was immediately rearranged on that basis. On February 9, 1900, the name of the School of Law was changed, by vote of the Board of Trustees, to *College of Law.*

Negotiations looking to the affiliation of the College of Physicians and Surgeons, of Chicago, with the University, which had been going on for several years, were concluded by the Board of Trustees by action taken upon propositions submitted by the College of Physicians and Surgeons to the Board at its meeting of March 9, 1897. According to the agreement made, the College of Physicians and Surgeons became on April 21, 1897, the *College of Medicine of the University of Illinois.* The College is located at 813 West Harrison Street, Chicago.

At the meeting of the Board of Trustees held April 22, 1897, the matter of the appointment of a librarian was considered by the Board and referred to a committee. This action of the Board was taken with a view of bringing to the University the School of Library Economy, which had been established in 1893 at the Armour Institute of Technology, in Chicago, and of securing the Director of that school for librarian of the University library. These plans were carried out and the *State Library School* was opened at the University in September, 1897.

Pursuant to action taken by the Board of Trustees March 12, 1901, a School of Dentistry was organized as a department of the College of Medicine. The school was opened October 3, 1901.

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BUILDINGS AND GROUNDS

The land occupied by the University and its several departments embraces about 210 acres.

The Chemical Laboratory is a three-story building, the ground plan of which is shaped like the letter E. The extreme dimensions are 230 feet along the front and 116 feet along the wings. The middle rear wing contains the lecture amphitheater, which will seat 350. The end wings contain the large general laboratories. The central part of the building is occupied by offices, museum, class and seminary rooms, supply rooms, etc., and a number of special rooms for research work. There is a well-lighted basement, which contains the heating and ventilating plant, and rooms for assaying and metallurgy.

Engineering Hall has a frontage of 200 feet, a depth of 76 feet on the wings, and 138 feet in the center. The first story contains the laboratories of the department of physics, the drafting seminary, and one of the recitation rooms of the department of electrical engineering, and the masonry laboratories and instrument rooms of the department of civil engineering. The second story contains the lecture room and the preparation rooms of the department of physics, the recitation and drawing rooms, cabinets, and studies of the departments of civil and municipal engineering, and the main office of the department of electrical engineering. The third story contains the elementary laboratory of the department of physics, the drawing rooms, lecture rooms, cabinets, and studies of the mechanical departments, as well as the library, the office, and the faculty parlor. The fourth story is devoted to the department of architecture, and contains drawing and lecture rooms, cabinets, a photograph studio, and a blue-print laboratory.

The Wood Shop is a brick building in the form of a cross, one portion being about 200 by 46 feet, one story high, while the other part is 52 by 80 feet and two stories high. This shop contains the bench room, lathe room, ma-

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chine room, lecture room, exhibition room, tool room, office, and room for pattern storage and repair work.

The Metal Shops is a one-story brick building, 50 by 250 feet. It contains a lecture room, two office rooms, a machine shop, a foundry, and a forge shop. The machine shop is 48 by 140 feet. Power is supplied by a 20 H. P. electric motor. A three-ton traveling crane of 12 foot span covers the center of the floor for the entire length, extending over a covered driveway between the machine shop and foundry.

The Mechanical and Electrical Engineering Laboratory is a brick building, two stories high, 100 feet long, and 50 feet wide, with a one-story wing 90 feet long and 50 feet wide. There is a basement under the main part, containing some special testing rooms, store rooms, and the toilet and wash rooms.

The Laboratory of Applied Mechanics is a brick building. The materials testing laboratory occupies the front, 45 by 65 feet, while the rear wing, 45 by 106 feet, contains the hydraulic laboratory.

The Central Heating Station is a brick building, 55 by 120 feet. It contains the apparatus used for heating the buildings on the campus. An annex contains the pump room and the stock room. The pipes of the heating system and the wires for power and light are carried from the Central Heating Station to the several buildings through brick tunnels 6½ feet high by 6 feet wide. The length of tunnel thus far constructed is 1,800 feet.

The Pumping Station of the University water-works is a brick building, 38 by 73 feet, connected with the Central Heating Plant. Two 8-inch wells 145 feet deep supply the University with wholesome water. A masonry reservoir provides for a fire reserve supply. The pumps, tanks, and connections are arranged to give opportunities for experimental work and also to vary the working conditions in the adjacent hydraulic laboratory.

The Armory, 100 by 150 feet in one grand hall, gives ample space for company and batallion maneuvers and for large audiences upon special occasions.

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Natural History Hall is 134 by 94 feet, with basement, two main stories, and an attic. It is occupied by the departments of botany, zoölogy, physiology, mineralogy, and geology, for each of which there are laboratories, lecture rooms, and offices, and contains the office and equipments of the State Laboratory of Natural History. There are six laboratory rooms on each of the main floors—sufficient altogether to accommodate 200 students, besides offering abundant facilities for the private work of the instructors.

The Astronomical Observatory is in the form of the letter T, the stem of which extends toward the south. The equatorial room, surmounted by the dome, is at the intersection of the stem and bar of the T. Besides the equatorial room the Observatory contains four transit rooms, a clock room, a recitation room, a study, and dark rooms for photographic purposes.

University Hall occupies three sides of a quadrangle, measuring 214 feet in front and 122 feet upon the wings. It is devoted almost exclusively to class rooms.

The Library Building is 167 by 113 feet, with a tower 132 feet high. The main floor contains the reference room, the reading room, the conversation room, the Fifth Year Library School room, and the delivery room, which opens into the second story of the book-stack. The second floor contains the Fourth Year Library School room, seminary rooms, the Bolter collection of insects, and the administrative offices of the University. The basement contains well-lighted rooms, which are at present used for various purposes. The book-stack is a rear wing to the building, separated from the rest of it by a fireproof wall. The stack will eventually contain five stories, and will accommodate 150,000 volumes. At present but three stories are fitted with shelving.

The Agricultural Building, erected at a cost of $150,000, consists of four separate structures, built around an open court and connected by corridors. The main building is 248 feet long, from 50 to 100 feet in depth, and three stories

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high, and contains offices, class rooms, and laboratories for the departments of agronomy, animal husbandry, dairy husbandry, horticulture, and veterinary science; offices of the State Entomologist; the chemical laboratory of the Experiment Station; commodious administration rooms; an assembly room with a seating capacity of 500, and on each floor a fireproof vault for records. The other three buildings are each 45 by 116 feet and two stories high; one is for dairy manufactures, one for farm machinery, and one for veterinary science and stock judging. These buildings are of stone and brick, roofed with slate, and contain, all told, 113 rooms and a total floor space of nearly two acres. An adjacent glass structure serves the departments of agronomy and horticulture. There are, in addition to these buildings, a veterinary hall, three dwellings, three large barns, and a greenhouse.

The Men's Gymnasium is a new three-story building of stone and pressed brick, 100 by 150 feet. On the first floor there is a swimming pool, lined with white enamel bricks, 26 feet wide, 75 feet long, and 8 feet deep at the lower end. This floor contains, also, the general locker room, which is fitted up with all-metal lockers, and with shower, tub, and steam baths; rooms for the University athletic teams; a room for visiting teams; a special dressing room for members of the faculty; and offices for the physical director and athletic instructors. The entire second floor is one large room, which is fitted up with all the modern appliances for gymnastic exercise. The third floor contains an elevated running track, 15 laps to the mile, which is properly banked on the turns to secure the greatest speed and comfort in running.

The Women's Gymnasium occupies very attractive quarters in the Laboratory of Applied Mechanics, and is well equipped. The pastime grounds, on the South Campus, in use through the year when the weather permits, have a sixteen-lap running track, eight tennis courts, two basket ball fields, and space for handball, hurdling, and other desirable

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amusements. Under suitable restrictions, at certain hours, the gymnasium is open for exercise to those who are not enrolled in the classes.

LABORATORIES

SCIENCE LABORATORIES

The *botanical geological, physiological, and zoölogical laboratories* are in Natural History Hall.

The *chemical laboratory* occupies the building of the same name, already described.

The *physical laboratory* is in Engineering Hall. It is provided with piers, a constant temperature room, and other conveniences for measurement work.

The *psychological laboratory,* in University Hall, is well provided with apparatus of many different kinds for use in experimental study, research, and instruction.

ENGINEERING LABORATORIES

The *cement laboratory* of the department of civil engineering occupies rooms in Engineering Hall.

The *electrical engineering laboratory* occupies space on three floors of the Mechanical and Electrical Engineering Laboratory.

The *mechanical engineering laboratory* occupies the rear wing of the Mechanical and Electrical Engineering Laboratory.

The *hydraulic laboratory* and the *materials testing laboratory* occupy the Laboratory of Applied Mechanics.

SPECIAL LABORATORIES FOR RESEARCH

The *chemical laboratory of the Agricultural Experiment Station* and the *student laboratory* for the study of fertility are situated on the third floor of the Agricultural Building,

* For a more detailed account of these laboratories, see under the appropriate College.

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as are also the *physical* and *bacteriological laboratories* for the examination of soils.

The *materials and hydraulic laboratories* occupy the new Laboratory of Applied Mechanics.

The laboratory rooms of the *State Laboratory of Natural History* are in Natural History Hall.

A *Biological Station,* equipped for field and experimental work in aquatic biology, is maintained on the Illinois River by the State Laboratory of Natural History. It has its separate staff, but is open to students of the University at all times, on application, and during the summer months to special students not connected with the University.

A *laboratory for sanitary water analysis* has been equipped with all necessary appliances, and chemical investigation of the water supplies of the state is carried on.

COLLECTIONS

AGRICULTURAL

The various agricultural departments maintain collections illustrative of their work, prominent among which are those showing typical specimens of standard varieties of corn, wax models of fruit and vegetables, an extensive horticultural herbarium, specimens of many breeds of live stock, a large collection of farm machinery, and exhibits of negatives and samples showing progress of certain investigations, as with fruit and with corn.

BOTANICAL

The *herbarium* contains about 45,000 mounted specimens of plants. The flora of North America is fairly well represented, the collection of species of flowering plants indigenous to Illinois is particularly complete, and a considerable collection of foreign species has been made. The collections of fungi amount to 28,000 named specimens and include a full set of those most injurious to other plants, causing rusts,

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smuts, moulds, etc. There are specimens of wood from 200 species of native trees and shrubs, which well illustrate the varieties of native wood.

Plaster casts represent fruits of many of the leading varieties as well as interesting specimens of morphology, showing peculiarities of growth, effects of cross-fertilization, etc.

ENGINEERING

The following departments of the College of Engineering have made extensive and valuable collections, which are placed in rooms in Engineering Hall.

ARCHITECTURE

A large number of specimens of stone, bricks, terra cotta, sanitary fixtures, casts of moldings and of ornament have been accumulated, together with some excellent specimens of industrial arts, models of structures, working drawings of important buildings, 3,000 lantern slides, 20,000 plates and photographs, and an excellent working library.

CIVIL ENGINEERING

The civil engineering department has a large room containing samples of iron, steel, wood, brick, and stone; materials for roads and pavements; models of arches and trusses, one of the latter being full-sized details of an actual modern railroad bridge. The department also possesses a very large collection of photographs and blue-print working drawings of bridges, metal skeleton buildings, masonry structures, and standard railroad construction.

ELECTRICAL ENGINEERING

The department has a collection of samples illustrating standard practice in the industrial applications of electricity. There is also a rapidly growing collection of lantern slides, photographs, blue-prints, drawings, pamphlets, and other engineering data.

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MECHANICAL ENGINEERING

This department has among other things a partial set of Reuleaux models, together with models of valve gears, sections of steam pumps, injectors, valves, skeleton steam and water gauges, standard packings, steam-pipe coverings, and drop forgings. There are also fine examples of castings, perforated metal, defective boiler plates, and sets of drills, with numerous samples of oil, iron, and steel. A large number of working drawings from leading firms and from the United States Navy Department forms a valuable addition to the above collections.

GEOLOGICAL

Lithology is represented by type collections of rocks (9,000 specimens), arranged to illustrate Rosenbusch; from Voigt and Hochgesang, L. Eger, and A. Kranz; a type collection from Ward; 1,000 thin sections of rocks and minerals; a large number of ornamental building stones; a stratigraphic collection to illustrate Illinois geology, and a collection of Illinois soils (104).

The *mineralogical* collection is especially rich in rock-forming minerals, ores, and materials of economic value. It contains over 12,000 specimens carefully selected to meet the wants of the student, and 575 crystal models.

The *paleontological* collection (49,000 specimens) contains representative fossils from the entire geologic series, but is especially rich in paleozoic forms. It embraces the private collections of A. H. Worthen (including 742 type specimens); Tyler McWhorter; Mr. Hertzer; 200 thin sections of corals; the Ward collection of casts, and a considerable number of special collections representing the fauna and flora of particular groups.

LIBRARY ECONOMY

A collection of books and pamphlets on library science, of library reports and catalogs, of mounted samples show-

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ing methods of administration in all departments, and of labor-saving devices and fittings has been made, and is arranged by the Dewey Decimal classification in the Library School seminary room.

PEDAGOGICAL

In the rooms of the department of education in University Hall is a considerable collection of illustrative material from the manual training departments of various schools; photographs of school buildings, drawings and constructive work by pupils in the public schools, and the nucleus of a representative collection of apparatus for the school laboratory.

ZOOLOGICAL

The *zoölogical* collections have been specially selected and prepared to illustrate the courses of study in natural history, and to present a synoptical view of the zoölogy of the state.

The mounted mammals comprise an unusually large and instructive collection of the ruminants of our country, including male and female moose, elk, bison, deer, antelope, etc., and also several quadrumana, large carnivora and fur-bearing animals, numerous rodents, good representative marsupials, cetaceans, edentates, and monotremes. Fifty-nine species of this class are represented by one hundred and one specimens and all the others, excepting the Sirenia, are represented by mounted skeletons. There is also a series of dissections in alcohol, illustrating the comparative anatomy of the group.

The collection of mounted birds includes representatives of all the orders and families of North America, together with a number of characteristic tropical, Bornean, and New Zealand forms. The collection is practically complete for Illinois species. There is also a fine collection of the nests and eggs of Illinois birds. A series of several

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hundred unmounted skins is available for the practical study of species, and the internal anatomy is shown in alcoholic dissections, and in mounted skeletons of all the orders.

The cold-blooded vertebrates are represented by a series of mounted skins of the larger species, both terrestrial and marine; mounted skeletons of typical representatives of the principal groups; alcoholic specimens, both entire and dissected, and casts. The alcoholics include series of the reptiles, amphibians, and fishes, the latter comprising about 300 species. The dissections illustrate the internal anatomy of the principal groups. The casts represent about seventy-five species, nearly all fishes.

The Mollusca are illustrated by alcoholic specimens of all classes and orders, and dissections showing the internal anatomy of typical forms. There are several thousand shells belonging to 1,700 species. The collection of Illinois shells is fair but incomplete.

The collection of insects has been greatly extended and enriched by the Bolter Collection, donated to the University by the executors of the estate of the late Andreas Bolter, of Chicago, which now contains over 16,000 species, represented by about 120,000 specimens, named, labeled, and systematically arranged.

The lower invertebrates are represented by several hundred dried specimens and alcoholics, and by a large series of the famous Blaschka glass models.

The embryology of vertebrates and invertebrates is illustrated by several sets of Ziegler wax models, and numerous series of slides, sections, and other preparations.

In addition to the above, the extensive collections of the State Laboratory of Natural History are available for illustrative purposes, as well as for original investigation by advanced students.

ART GALLERY

The University Art Gallery was the gift of citizens of Champaign and Urbana. It occupies a room in the base-

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ment of the Library Building, and furnishes an excellent collection of models for students of art. In sculpture it embraces thirteen full-size casts of celebrated statues, forty statues of reduced size, and a large number of busts and bas-reliefs, making in all over 400 pieces. It includes also hundreds of large autotypes, photographs, and fine engravings, representing many of the great masterpieces of painting of nearly all the modern schools, and a gallery of historical portraits, mostly large French lithographs, copied from the great national portrait galleries of France.

Other collections of special value to art students embrace a large number of casts of ornament from the Alhambra and other Spanish buildings, presented by the Spanish government; a set of casts from Germany, illustrating German renaissance ornament; a series of art works from the Columbian Exposition; large numbers of miscellaneous casts, models, prints, and drawings, such as are usually found in the best art schools, and a model in plaster and a complete set of drawings of a competitive design by Henry Lord Gay for a monument to be erected in Rome, commemorative of Victor Emmanuel, first king of Italy.

LIBRARIES

The general University library, the library of the State Laboratory of Natural History, that of the Agricultural Experiment Station, and that of the College of Law are all at the University in Urbana. The libraries of the College of Medicine and the Schools of Pharmacy and Dentistry are in Chicago.

The general University library, including the Agricultural Experiment Station library, contains 56,000 volumes and 9,000 pamphlets. The reading room contains 644 periodicals. The library of the State Laboratory of Natural History contains 15,000 volumes and 11,000 pamphlets. The Library of the College of Law contains the Federal and State Reports, the leading text-books, and a line of

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leading periodicals. The department of education has made a special collection of about 1,500 books and 3,000 pamphlets, which are kept in the rooms of the department in University Hall. This collection contains a very good assortment of modern text-books, and copies of the courses of study of nearly all the large city school systems.

The libraries of the College of Medicine and of the Schools of Pharmacy and Dentistry are described further on in the catalog, in connection with these institutions.

The general library at the University is open daily, except Sunday, from 8 a. m. until 5 p. m., and from 6:30 p. m. until 9 p. m. on Mondays, Tuesdays, Wednesdays, and Thursdays. The reading rooms are open from 8 a. m. until 9 p. m. on Mondays, Tuesdays, Wednesdays, and Thursdays, and until 5 p. m. Fridays and Saturdays.

The Public Library of the City of Champaign contains the valuable library of western history collected by Edward G. Mason, Esq., long President of the Chicago Historical Society. The collection is thus made accessible to University students.

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ADMISSION

Applicants for admission to the freshman class must be at least sixteen years of age.

Entrance may be made at any time, provided the candidate is competent to take up the work of the classes then in progress; but it is better to begin upon the first collegiate day in September.

Admission to the freshman class of the University may be obtained in one of three ways: (a) by certificate from a fully accredited high school; (b) by examination; (c) by transfer of credits from some other college or university.

ADMISSION BY CERTIFICATE FROM ACCREDITED HIGH SCHOOLS

The University employs a high school visitor, whose business is to inspect the high schools of the state. The University bears the expense of such inspection, but does not send the visitor to any school not already accredited until a request is made for such visit, together with a report on the work of the school which shows that its course of study is such as to merit the attention of the University. After inspecting a school the visitor reports upon it to the Council of Administration of the University, and upon approval the school is added to the list of accredited schools. Students coming to the University from an accredited school are excused from entrance examinations in those subjects which they have pursued there satisfactorily and which are accepted for admission to the University. The University accredits all work which is sufficiently well done. The schools in the list below are therefore not all accredited

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for the same amount of work, nor for the same subjects.

In all subjects required for admission to the University, other than those for which his school is accredited, the candidate for admission must pass an examination or take the work in the Preparatory School of the University.

Candidates for admission from accredited schools must file with the Registrar, upon entrance, a certificate of graduation and a certified list of the preparatory studies for which they received credit in the high school. Blanks for these certificates must be obtained from the Registrar in advance, and it is better to forward them to him for approval before registration days.

LIST OF ACCREDITED SCHOOLS

School	Superintendent	Principal
Aledo	Fred N. Taylor	Mollie P. Taylor
Alton	R. A. Haight	J. E. Turner
Amboy	F. W. Dunlap	Harold James
Anna	E. E. McLaughlin	W. P. Miller
Arcola	H. T. Wilson	Mary Ewing
Ashland	Ralph Holmes	C. E. Barker
Astoria	U. S. Collins	Alice J. Temple
Atlanta	Anthony Middleton	Mary Neff
Augusta	S. Douglas Faris	John A. Mead
Aurora (East)	C. M. Bardwell	W. F. Geiger
Aurora (West)	A. V. Greenman	Katharine Reynolds
Beardstown	H. J. Jokisch	Joseph Hutton
Belleville	J. K. Light	H. W. Brua
Belvidere (North)	A. J. Snyder	Flora Fellows
Belvidere (South)	C. H. LeVitt	Mrs. C. W. Bartine
Bement	Arthur Verner	J. E. Z. Turney
Biggsville	(Township High School)	J. A. Strong
Bloomington	J. K. Stableton	Edwin L. Boyer
Blue Island	(Township High School)	J. E. Lemon
Burlington, Ia.	Francis M. Fultz	Maurice Ricker
Bushnell	W. H. H. Miller	W. H. H. Miller
Cairo	Taylor C. Clendenen	Clyde Stone
Cambridge	Ed. G. Maul	Anna Gimmell
Camp Point	S. S. Simpson	Effie Tull
Canton	C. S. Aldrich	C. S. Aldrich
Carlinville	J. E. Wooters	I. H. Gamble
Carlyle	E. E. Van Cleve	John W. Fisher
Carmi	R. W. Jennings	H. A. Echols
Carrollton	E. A. Thornhill	D. H. Wells
Carthage	Theodore H. Haney	J. Fay Cusick

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School	Superintendent	Principal
Casey	J. D. McMeen	R. A. White
Centralia	S. H. Bohn	H. S. Elliott
Cerro Gordo	Earl Q. Snider	F. S. Betz
Champaign	Joseph Carter	Lottie Switzer
Charleston	J. L. Hughes	A. O. Washburn
Chatsworth	C. F. Van Doren	T. J. Lawless
Chicago—		
Austin	E. G. Cooley	Geo. H. Rockwood
Calumet	"	Avon S. Hall
Englewood	"	James E. Armstrong
English High and Manual Training	"	Albert R. Robinson
Hyde Park	"	Charles W. French
Jefferson	"	Charles A. Cook
Lake	"	Edward T. Stearns
Lake View	"	Benjamin F. Buck
Marshall	"	Louis J. Block
Medill	"	Edward C. Rosseter
Northwest Division	"	Franklin P. Fisk
South Chicago	"	Charles I. Parker
South Division	"	Spencer R. Smith
Waller	"	Oliver S. Westcott
West Division	"	George N. Clayberg
Chicago Heights	(Township High School)	Arthur Reynolds
Chicago Manual Training	H. H. Belfield, Director	
Chillicothe	H. M. Anderson	Kate Scarry
Chrisman	J. C. Arnold	M. L. Mohler
Clinton	E. B. Bentley	Martha Hunt
Clinton, Ia.	O. P. Bostwick	J. S. McGowan
Clyde	(Township High School)	H. V. Church
Colfax	F. C. Prowdley	Mary Hotsenpeller
Covington, Ind.	W. P. Hart	A. M. Wilson
Danville	L. H. Griffith	W. Martin
Davenport, Ia.	J. B. Young	W. D. Wells
Decatur	E. A. Gastman	S. W. Ehrman
De Kalb	Newell D. Gilbert	Frederick Giles
Delavan	E. A. Cross	F. Von Eschen
Dixon (North)	H. V. Baldwin	Mary Burd
Dixon (South)	Charles W. Groves	B. F. Bullard
Downer's Grove	O. M. Searles	Mabel E. Messner
Dubuque, Ia.	F. T. Oldt	J. S. Gochenauer
Dundee	Julia M. Gay	Miss I. H. Gaardner
DuQuoin	C. W. Houk	M. C. Murray
Dwight	R. C. Rennick	Jennie Meyers
East St. Louis	John Richeson	C. L. Manners
Edwardsville	Chas. W. Parkinson	J. W. Park
Effingham	J. D. Fousht	M. S. Vance
Elgin	M. A. Whitney	E. J. Kelsey
Elgin Academy		Geo. Newton Sleight
Elmhurst Evangelical	Proseminar D. Irion, President	

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School	Superintendent	Principal
Elmwood	C. S. Stewart	C. S. Stewart
El Paso (West)	H. E. Waits	H. E. Waits
Evanston	(Township High School)	Henry L. Boltwood
Evansville, Ind.	W. A. Hester	Robert Spear
Fairbury	W. S. Perry	Marcia O. Smith
Fairfield	A. E. Gilpin	A. E. Gilpin
Farmer City	C. C. Covey	J. E. Raibourn
Farmington	Lyman B. Mansell	Gertrude Neal
Flora	J. M. Stephens	Genevieve Jepson
Freeport	R. S. Page	S. E. Raines
Fulton	J. D. Rishell	Myrtle F. Ballard
Galena	Phil. Clark	Clark Emory
Galesburg	W. L. Steele	F. D. Thompson
Galva	Fred U. White	Hedwig Marie Maul
Geneseo	A. W. Hussey	Henry N. Frost
Geneva	Evelyn Gardner	Evelyn Gardner
Gibson City	A. P. Johnson	A. P. Johnson
Gilman	F. A. Gilbreath	A. Mae Matheny
Girard	F. E. Kennedy	Minnie Wells
Grand Prairie Seminary	(Onarga)	Frank G. Barnes
Greenfield	H. G. Russell	Helen G. Russell
Greenview	Robert C. Hiett	Robert C. Hiett
Greenville	W. Duff Piercy	Charles F. Ford
Griggsville	W. H. D. Meier	Florence E. Pitts
Harvard	R. G. Jones	Mrs. R. G. Jones
Harvey	(Township High School)	J. E. Cable
Havana	Jasper R. Sparks	Mrs. Sara E. Pierce
Henry	H. M. Snow	Eva D. Beattie
Highland Park	(Township High School)	W. A. Wilson
Hillsboro	Samuel T. Robinson	William S. Harris
Hinsdale	J. M. Frost	Mary McNair
Hoopeston	S. A. D. Harry	Charles F. Briscoe
Illinois Woman's College (Jacksonville)		Jos. R. Harker, President
Jacksonville	E. E. Webster	L. A. Fulwider
Jerseyville	J. Pike	Edward B. Shafer
Joliet	(Township High School)	J. Stanley Brown
Kankakee	Franklin N. Tracy	Isaac E. Neff
Keokuk, Ia.	O. W. Weyer	A. A. Reed
Kewanee	A. C. Butler	T. M. Birney
Knoxville	W. F. Jones	Emma Mowrey
Lacon	D. B. Burrows	Miss Stonebraker
La Grange	(Township High School)	E. R. Cole
Lake Forest Academy		Wm. N. McKee
Lanark	C. A. Langworthy	Lottie M. Cubler
La Salle	(Township High School)	Charles A. Farnam
Lena	Jay R. Inman	Sue L. Wilson
Le Roy	S. K. McDowell	Flora M. Grady
Lewiston	B. C. Moore	Mary E. Tate
Lexington	A. L. Bliss	Alberta Clark
Lincoln	B. E. Nelson	E. G. Quigley

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School	Superintendent	Principal
Litchfield	C. E. Richmond	A. A. Neisler
Lockport	C. O. Du Bois	J. O. Du Bois
McLeansboro	F. D. McKittrick	Silas Echools
Macomb	W. W. Earnest	O. E. Reynolds
Marengo	G. N. Snapp	Orena Butler
Marion	J. W. Asbury	Charles Ryburn
Marseilles	F. M. Kline	F. M. Kline
Marshall	B. A. Sweet	M. N. Beeman
Martinsville	J. H. Brewer	G. F. Hightower
Mason City	T. W. B. Everhart	Mrs. Emma Naylor
Mattoon	G. P. Randle	J. P. Gilbert
Mendota (East)	W. R. Foster	Jennie Anderson
Mendota (West)	George C. Griswold	Myra J. Howes
Metropolis	Edward Longbons	T. F. McCartney
Minonk	F. L. Mills	Helen M. Clark
Moline	W. J. Cox	W. H. Heil
Monmouth	B. F. Armitage	W. L. Hanson
Monticello	J. T. Gale	Daisy D. Iddings
Morris	P. K. Cross	Matilda Castro
Morrison	W. E. Weaver	Ella M. Ellsworth
Mount Carmel	W. S. Booth	Kate Marsh
Mount Carroll	Ada M. Griggs	Mrs. Mary E. Weeks
Mount Morris College (Preparatory)		J. G. Royer, President
Mount Pulaski	G. B. Coffman	Joseph H. Gordon
Mount Vernon	H. J. Alvis	W. L. Soler
Murphysboro	(Township High School)	Ellis H. Rogers
Nashville	J. H. Barker	S. A. Miller
Newman	E. J. Vines	E. J. Vines
Newton	E. B. Brooks	Charles Bevis
New Trier Township High School (Kenilworth)		Edw. Manley
Nokomis	Harry C. Miller	Charlotte Holmes
Normal	E. A. Fritter	Charles A. Rice
North Park College (Chicago)		D. Nyvall, President
Oak Park	(Township High School)	John Calvin Hanna
Odell	L. T. Earnhart	Catherine Kinnison
Olney	George D. Wham	James W. Barrow
Onarga	Richard E. Selby	Ida L. Fleischer
Oregon	E. S. Hady	Adalaide Steele
Ottawa	(Township High School)	J. O. Leslie
Pana	H. C. McCarrel	L. S. Ham
Paris	H. W. Monical	A. F. Lyle
Paw Paw	R. B. Kleinsmid	F. S. Deiblir
Paxton	O. J. Bainum	Clarence Bonnell
Pecatonica	Geo. A. Collins	Geo. A. Collins
Pekin	O. A. Schotts	Asa Hiett
Peoria	N. C. Dougherty	Alf. W. Beasley
Petersburg	G. W. L. Meeker	W. D. Higdon
Pittsfield	Wm. Calhoun	Lillian Barton
Plano	J. R. Freebern	Grace Garnett

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School	Superintendent	Principal
Polo	S. Manson Abbott	Mabel B. Dempster
Pontiac	(Township High School)	C. E. De Butts
Princeton	(Township High School)	D. O. Barto
Quincy	F. G. Ertel	D. B. Rawlins
Riverside	A. F. Ames	Edward L. Hardy
Robinson	O. R. Hedden	G. H. Henry
Rochelle	C. F. Philbrook	Marg't H. J. Lampe
Rockford	P. R. Walker	B. D. Parker
Rock Island	H. B. Hayden	J. F. Darby
Roodhouse	Harvey T. White	O. C. Bolman
Rossville	I. A. Smothers	F. Jones
Rushville	H. H. Edmunds	H. B. Fisher
St. Charles	C. E. Mann	C. E. Mann
St. Louis, Mo.	F. Louis Soldan	W. J. S. Bryan
Salem	S. J. Curlee	Laura E. Myers
Sandwich	W. W. Woodbury	O. M. Edwards
Savanna	(Township High School)	W. S. Wallace
Sheffield	J. A. Taylor	J. A. Taylor
Shelbyville	A. C. Cohagan	R. J. Roberts
Sheldon	J. J. Ferguson	W. C. Chapman
Southern Illinois State Normal (Carbondale)		High School Dept.
Sparta	S. B. Hood	L. J. Sexton
Springfield	J. H. Collins	L. M. Castle
Sterling	(Township High School)	E. T. Austin
Streator	(Township High School)	R. R. Upton
Sugar Grove	E. M. Harris	E. M. Harris
Sullivan	Hugh A. Bone	Oscar B. Lowe
Sycamore	John N. Adee	Sarah Robinson
Taylorville	(Township High School)	Wm. E. Andrews
Terre Haute, Ind.	William Wiley	Chas. Meek
Toulon Academy		Lewis A. Morrow
Tuscola	G. F. Arps	F. W. Schacht
Urbana	J. W. Hays	Clifford Willis
Vandalia	H. L. Smith	W. H. Pyle
Vermillion Academy	(Vermillion Grove)	Geo. H. Moore
Vienna	M. N. McCartney	Lulu Whittenberg
Virden	Josiah Main	Flora Culp
Virginia	M. J. Alkire	Kate Bellersheim
Warren	B. F. Baker	Olivette M. Buser
Warren Academy		H. B. Humphrey
Warsaw	L. Fairfax	George Perrin
Washington	J. W. Hesler	Abby L. Ross
Watseka	E. J. Blake	Ferdinand Zipf
Waukegan	Miriam Besley	W. J. Stebbins
Waverly	J. C. Walters	J. C. Walters
Wenona	Ida M. Wright	H. J. Bassler
Western Military Academy	(Upper Alton)	A. M. Jackson
Wheaton	J. B. Russell	Ella M. Gregg
Whitehall	Chas. E. Joiner	Etta M. Hunter
Wilmington	Sam Houston	S. E. Houston

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School	Superintendent	Principal
Winchester	B. F. Parr	B. F. Parr
Woodstock	C. W. Hart	C. L. Cutting
Wyoming (South)	J. B. Wallace	J. B. Wallace
Yorkville	Oliver R. Zoll	Lilabel A. Lemon

ADMISSION BY EXAMINATION

Examinations of candidates for admission to the University are held at the University in September (see program, p. 62). Each candidate must be in attendance during the whole period of the examinations.

The scholarship examinations,* held each year on the first Saturday in June, in the several counties of the state, afford an opportunity to pass a part of the entrance examinations before coming to the University.

The subjects upon which the entrance examinations are held are described below.

When text-books are named it is merely to aid in explaining the requirements. Equivalents are accepted.

In all cases 40† credits are required, the term credit meaning the amount of work represented by the continuous pursuit of one subject, with daily recitations, through one of the three terms of the high school year; or, in other words, the work of sixty recitation periods of forty minutes each, or the equivalent in laboratory or other practice. Of these 40 credits, 17 must be obtained by all candidates in the subjects, and according to the valuation, stated in the prescribed list given below. The remainder of the 40 may be made up by offerings in any of the subjects in the elective list given below, with the following restrictions and provisions:

1. No offering will be accepted in any one of these elective subjects unless at least equal in quantity to the minimum specified in the table. For example: Astronomy is listed for from 1 to 1½ credits. Nothing less than one term's work, that is, one credit, will be accepted, therefore, in that subject.

* See State Scholarships, p. 285.
† Beginning September, 1905, 42 credits will be required.

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2. Those who wish to enter upon courses leading to the degree of bachelor of arts in *Literature and Arts* must offer three credits in history and nine* credits in foreign language, in addition to the 17 credits prescribed for all candidates. The candidate must then make up the remainder of the required credits by offerings from the elective list. Those who wish to pursue the study of Latin in the University must offer at least nine credits in Latin.

3. Those who wish to enter upon courses leading to the degree of bachelor of arts *in science,* or of bachelor of science in *science, engineering* or *agriculture,* must offer in addition to the seventeen credits prescribed for all candidates, six credits in science. They must then make up the remainder of the necessary credits with electives; but engineering students must offer solid and spherical geometry.

4. Those who wish to enter the course leading to the degree of bachelor of laws must offer, in addition to the seventeen credits prescribed for all candidates, three credits in English and American History and any subjects chosen from the elective list sufficient to make up the number of credits required for entrance.

5. Those who wish to enter upon a course leading to the degree of bachelor of music must offer, in addition to the 17 credits prescribed for all candidates, three credits in history, nine* in foreign language, and six in music. The remainder of the required forty credits must then be made up with subjects from the elective list. The work which is accepted for the six credits in music is described in courses 6, 11, 14, on pages 259-262, but these credits may be obtained only by examination at the University.

SUBJECTS ACCEPTED FOR ADMISSION, WITH CREDITS

Prescribed for all Candidates

Algebra ..... 5 credits
English Composition ..... 3 credits
English Literature ..... 6 credits
Geometry, Plane ..... 3 credits

* At least six of these must be in the same language.

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Elective

Astronomy	1	to 1½	credits
Botany	1½	to 3	credits
Chemistry	2	to 3	credits
Civics	1	to 3	credits
Drawing	1	to 3	credits
French	3	to 9	credits
Geology	1½	to 3	credits
Geometry, Solid and Spherical		1	credit
German	3	to 12	credits
Greek	3	to 7	credits
History	3	to 9	credits
Latin	3	to 12	credits
Physics		3	credits
Physiography	1½	to 3	credits
Physiology	1	to 3	credits
Zoölogy	1½	to 3	credits

DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

The amount of work in each subject which, in the judgment of the University authorities, corresponds to the minimum number of credits assigned is shown by the description of subjects below:

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. ASTRONOMY.—To obtain a single credit for entrance in astronomy, the student must pass an examination covering as much text-book work as is contained in any good text. For 1½ credits, the entrance requirement implies, in addition to the above, some degree of practical familiarity with the geography of the heavens, with the various celestial motions, and with the positions of some of the more conspicuous naked-eye heavenly bodies.

3. BOTANY.—A familiar acquaintance is required with the general structure of plants, and of the principal organs and their functions, derived to a considerable extent from a study of the objects; also a general knowledge of the main groups of plants, and the ability to classify and name the more common species. Laboratory note-books and herbarium collections should be presented.

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4. CHEMISTRY.—The instruction must include both text-book and laboratory work. The work should be so arranged that at least one-half of the time shall be given to the laboratory. The course, as it is given in the best high schools in two terms or three terms, respectively, will satisfy the requirements of the University for the two credits or three credits for admission. The laboratory notes, bearing the teacher's indorsement, must be presented in evidence of the actual laboratory work accomplished. Candidates for admission may be required to demonstrate their ability by laboratory tests.

5. CIVICS.—Such amount of study on the United States constitution, its history and interpretation, as is indicated by any of the usual high-school text-books on civil government, is regarded as sufficient for one term. The work may advantageously be combined with the elements of political economy or the industrial history of the country.

6. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each to test his ability to use the English language.

7. DRAWING.—Free-hand or mathematical drawing, or both. Drawing-books or plates must be submitted. The number of credits allowed depends on the quantity and quality of the work submitted.

8. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next three years are as follows:

1903.—The Sir Roger de Coverley Papers; Carlyle's Essay on Burns; Coleridge's Ancient Mariner; George Eliot's Silas Marne; Goldsmith's Vicar of Wakefield; Lowell's Vision of Sir Launfal; Scott's Ivanhoe; Shakespere's Merchant of Venice; Shakspere's Julius Cæsar; Tennyson's Princess.

1904 and 1905.—The same as 1903.

(b) In addition to the above the candidate will be required to present a careful study of the history of either English or Amercan Literature.

(c) The candidate will be examined on the form and substance of certain books in addition to those named under (a). For 1903, 1904 and 1905 the books will be selected from the list below. The

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examination will be of such a character as to require a minute study of each of the works named, in order to pass it successfully. The list is:

Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

Two years of high school work, with five recitations a week, are necessary for the above preparation.

9. FRENCH.—*One year's work.*—The candidate must have a thorough knowledge of elementary grammar and the irregular verbs; must be able to pronounce correctly, and to translate simple spoken French phrases. He must have read some 300 pages of easy prose, including one modern comedy, and must be able to translate ordinary French prose at sight.

Two years' work.—In addition to the above, the candidate must show proficiency in advanced grammar, the essentials of syntax, and elementary composition. The reading of not less than 400 pages of standard authors, including two plays of Molière, is required, and the memorizing of not less than six fables or anecdotes.

Three years' work.—In addition to what has already been described, the candidate must have had further work in composition, and must have memorized not less than six poems or anecdotes. He must further have read not less than 500 pages of standard authors, including Molière, La Fontaine, and Hugo. Some acquaintance with modern lyrics is necessary.

10. GEOLOGY.—Familiarity with the principles of dynamic and structural geology, and some acquaintance with the facts of historical geology as presented in Scott's Introduction to, or Brigham's Text-book of Geology, or a real equivalent, together with at least an equal amount of time spent in laboratory and field work, will be required for 1½ credits.

The laboratory work should follow one or more of the lines indicated below, and note books should be presented showing the character and the amount of work done.

1. Studies of natural phenomena, occurring in the neighborhood, which illustrate the principles of dynamic geology. Each study should include a careful drawing of the object, and a written description of the way in which it was produced.

2. Studies of well-marked types of crystalline, metamorphic and sedimentary rocks, which will enable the student to recognize

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each type and state clearly the conditions under which it was formed.

3. Studies of minerals of economic value, including the characteristics of each, its origin, and the uses to which it is put.

4. Studies of the types of soil occurring in the neighborhood, including the origin of each and the cause of differences in appearance and fertility.

11. GEOMETRY.—(a) *Plane Geometry.* Special emphasis is placed upon the ability to use propositions in the solution of original numerical exercises and of supplementary theorems.

(b) *Solid and Spherical Geometry.* Applications to the solutions of original exercises are emphasized.

12. GERMAN.—*One year's work.*—Elementary grammar. Besides the work in grammar, the student should read not less than 150 pages of easy narrative, or descriptive prose.

Two years' work.—In addition to the work outlined under the one year's requirement, the pupil should know the syntax of cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and of participial constructions. As an additional reading requirement, from 250 to 300 pages, including one of Schiller's historical dramas, and about thirty pages of German lyrics, should be translated.

Three years' work.—The third year's study should aim to secure an easy reading knowledge of the language. Standard prose of the grade represented by Heine, Freytag, or Dahn, not less than 100 pages, should be read, together with selections from classic poetry. Lessing's Minna von Barnhelm and Goethe's Egmont or Iphigenie auf Tauris are especially recommended. Prose composition.

13. GREEK.—To obtain three credits, the exercises in any of the beginning books, and one book of the Anabasis, or its equivalent, must be offered. For six credits, two books of the Anabasis and three of Homer, or their equivalents, additional to the above, must be presented, together with an amount of Greek prose composition equal to one exercise a week for one year.

14. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The History of Greece and Rome. The statement of requirements in each subject implies the use of a substantial text-book, together with some elementary training in the use of reference books. If but one year can be given to History, it

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is recommended that that year be devoted to the History of England and of the United States. When two or more years can be given to the study of History, it is recommended that the time be divided equally between Ancient History, English History, and American History. In all of these subjects, careful attention should be given to Historical Geography.

15. LATIN.—*First year's work.*—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories.

Second year's work.—Four books of Cæsar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

Third year's work.—Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

Fourth year's work.—The scansion of hexameter verse, six books of Virgil, with history and mythology.

16. PHYSICS.—One year's high school work covering the elements of physical science as presented in the best of the current high school text-books of physics. Laboratory practice in elementary quantitative experiments should accompany the text-book work. The candidate's laboratory note-book will be considered as part of the examination.

17. PHYSIOGRAPHY.—The amount and character of the work required for this credit may be seen by referring to the texts of Gilbert & Brigham, or Davis, but the recitations must be supplemented by at least an equal amount of time devoted to laboratory work. The laboratory exercises should follow one or more lines such as are indicated below, each school selecting those which best fits its conditions. Each student should present a note-book showing exactly what he has done.

1. Studies in mathematical geography in which map and scale only are used. These should embrace such topics as length of a degree in longitude in various latitudes; length and breadth of continents, etc., in degrees and miles; relative latitude of places; distances between cities, etc., in degrees and miles; difference in length of parallels and meridians; problems in time; location of time belts, etc.

2. Studies of local topographic features which illustrate the various phases of stream work. Each study should include a drawing or topographic map of the object and a full, clear description of the way in which it was formed.

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3. Studies of glacial deposits as shown in terminal and ground moraines, kames, eskers, etc.; distribution of dark and light colored soils; occurrence of lakes, ponds, gravel beds, clay banks, and water-bearing strips of sand and gravel.

4. Studies of stream work as shown on the topographic sheets which may be obtained from the United States Geological Survey at nominal cost.

5. Studies of the form, size, direction and rate of movement of high and low barometer areas, and the relation of these to direction of wind, character of cloud, distribution of heat, and amount of moisture in the air, as shown in the daily weather maps. Later these studies should lead to the making of weather maps from the data furnished by the daily papers, and to local prediction of weather changes based on the student's own observations.

6. Studies of the climate of various countries compared with our own, the necessary data being derived from such topographic, rainfall, wind, current, and temperature maps as are found in Sydow-Wagner's or Longman's atlases.

18. PHYSIOLOGY.—For one credit are required the anatomy, histology, and physiology of the human body and the essentials of hygiene, taught with the aid of charts and models to the extent given in Martin's Human Body (Briefer Course). For more than one credit, the course must include practical laboratory work. The number of credits, beyond one, will be determined in each case according to the quantity and quality of the work.

19. ZOÖLOGY.—The instruction must include laboratory work equivalent to four periods a week for a half year, besides the time required for text-book and recitation work. Note-books and drawings must be presented which shall show the character of work done and the types of animals studied. The drawings are to be made from the objects themselves and not copied from illustrations, and the notes are to be a record of the student's own observation on the animals examined. The amount of equipment and character of surroundings must, of course, determine the nature of the work done and the kind of animals studied, but in any case the student should have at least a fairly accurate knowledge of the external anatomy of each of eight or ten animals distributed among several of the larger divisions of the animal kingdom, and should know something of their life histories and of their more obvious adaptations to environment. It is recommended that especial attention be given to such facts as can be gained from a careful

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study of the living animal. The names of the largest divisions of the animal kingdom with their most important distinguishing characters and illustrative examples, selected when practical from familiar forms, ought also to be known.

PROGRAM OF EXAMINATIONS, SEPTEMBER 9-12, 1903

All persons who wish to enter the University in September, 1903, except those holding certificates of graduation from accredited schools and scholarship certificates, and those for whom a transfer of all entrance credits from some other college or university has already been approved, must present themselves at the Registrar's office, Library Building, at 9 o'clock a. m., Wednesday, September 9th. At that time application for admission will be received, and applicants will be given all necessary directions as to examinations.

The program of examination is as follows:

Chemistry, 2 or 3 credits	Wednesday	9:50 a. m.
Geology, 1½ or 3 credits	Wednesday	9:50 a. m.
Astronomy, 1 or 1½ credits	Wednesday	11:10 a. m.
History, 3 or 6 credits	Wednesday	12:50 p. m.
Physiography, 1½ or 3 credits	Wednesday	3:20 p. m.
English Literature, 6 credits	Thursday	7:50 a. m.
English Composition, 3 credits	Thursday	10:20 a. m.
Latin, 3 or 6 credits	Thursday	12:50 p. m.
Physics, 3 credits	Thursday	3:50 p. m.
Algebra, 4 credits	Friday	7:50 a. m.
Civics, 1 to 3 credits	Friday	10:20 a. m.
Geometry, Plane, 3 credits	Friday	12:50 p. m.
Geomerty, Solid and Spherical, 2 credits	Friday	2:35 p. m.
Physiology, 1 to 3 credits	Friday	3:20 p. m.
German, 3 or 6 credits	Saturday	7:50 a. m.
French, 3 or 6 credits	Saturday	7:50 a. m.
German, 7 to 9 credits	Saturday	10:20 a. m.
French, 7 to 9 credits	Saturday	10:20 a. m.
Latin, 7 to 12 credits	Saturday	12:50 p. m.
Botany, 1½ to 3 credits	Saturday	12:50 p. m.
Zoölogy, 1½ to 3 credits	Saturday	3:20 p. m.

The time for examinations in Free Hand Drawing and in Manual Training will be arranged with candidates.

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ADMISSION BY TRANSFER FROM OTHER COLLEGES AND UNIVERSITIES

A person who has entered another college or university of recognized standing will be admitted to this University upon presenting a certificate of honorable dismissal from the institution from which he comes and an official statement of the subjects upon which he was admitted to such institution, provided it appears that the subjects are those required here for admission by examination, or real equivalents. Candidates, to enter the University in this way, should submit such papers to the Registrar before the time of entrance, so that all doubtful points may be cleared up in advance.

ADMISSION AS SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, may be admitted to classes, after satisfying the President, and the professor in charge of the department in which such classes are taught, that they possess the requisite information and ability to pursue profitably, as special students, the chosen subjects. Such students are not matriculated; they pay a tuition fee of seven dollars and a half a semester, in addition to the regular incidental fee of twelve dollars.

After successfully completing thirty semester hours of university work, a special student may receive such credits toward matriculation on account of practical experience in the line of his course, as the head of the department and the dean of the college may recommend, and the President of the University may approve.

In the College of Agriculture special students may be received at eighteen years of age subject to the same conditions as other special students, except that they may hold scholarships in agriculture (p. 287).

ADMISSION TO ADVANCED STANDING

After satisfying the entrance requirements for admission to the University, in some of the ways described, and after

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matriculating, the applicant for advanced standing may secure such standing either by examination or by transfer of credits from some other college or university.

1. *By Examination.*—Candidates for advanced standing, not from other colleges or universities, may secure such standing on examination. In the case of freshman students seeking advanced standing on the basis of their preparatory work, such standing shall be granted after satisfactory examination only, unless the applicants are from fully accredited schools. In that case a transfer of credits may be made as provided below.

2. *By Transfer of Credits.*—Credits from other colleges or universities may be accepted by the Faculty for advanced standing; but at least one year's work in residence at the University is required of all candidates for a bachelor's degree.

In all cases a certificate of honorable dismissal is required, together with a certified record of work done in the institution from which the applicant comes. These should be presented for approval some time before the student enters for work.

Upon approval of the faculty freshmen may receive a limited amount of credit for advanced work done in fully accredited high schools.

REGISTRATION

At the beginning of the first semester each student must present himself for registration within the time set for that purpose, before the formation of classes, and he must be present at the first exercise of each class he is to attend.

EXAMINATIONS

Examinations are held as often as in the judgment of the instructor the necessities of the work require. Examinations are also given at the close of each semester, on the work of the semester, in all subjects except those whose character renders it unnecessary or impracticable.

A record is kept of each student's standing.

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SEMESTERS AND RECESS

The University year is divided into semesters, each covering eighteen weeks of instruction. There is a recess of two weeks at the Christmas holidays.

For dates of opening and closing, see Calendar, p. 5.

GRADUATION

In all cases credit for one hundred and thirty "semester hours" (see p. 164) is required for graduation. The candidate for a degree must complete all the subjects prescribed for graduation in his course, and when, in doing this, he does not gain the necessary credit of one hundred and thirty hours, he must make up the deficiency by electing other subjects.

The combinations of studies under which a student may graduate are too numerous to describe; they are given to some extent under the separate colleges and schools.

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ADMINISTRATION OF THE UNIVERSITY

GOVERNMENT

The government of the University is vested by the Trustees primarily in the President of the University, in the Senate, in the Council of Administration, and in the Deans.

The President is the executive head of the University.

The Dean of the Graduate School has general oversight of the instructional work of the University, and especial supervision of the graduate school. By order of the Board of Trustees he also fills the office of Vice-President.

The Dean of Undergraduates has general oversight of the undergraduate students.

The Dean of the Woman's Department is charged with general oversight of the young women of the University.

The Dean of each college is responsible for the enforcement of all University regulations within his college.

The Council of Administration is composed of the President, the Dean of the Graduate School, the Dean of Undergraduates, the Dean of the Woman's Department and the Deans of the separate colleges. It constitutes an advisory board to the President, *and has exclusive jurisdiction over all matters of discipline.*

The Council does not exercise general legislative functions, but when any matter arises which has not been provided for by common usage or by rule of the Senate and which cannot be conveniently laid over till the next meeting of the Senate, the Council may act upon the same according to its discretion.

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The determination of the general internal policy of the University is in charge of the Senate.

The faculties of the different colleges and schools of the University are composed of the members of the corps of instruction of these colleges and schools, and have jurisdiction over all matters which pertain exclusively to these organizations, subject always to higher University authority.

ORGANIZATION

For the purpose of more efficient administration, the University is divided into several colleges and schools. This division does not imply that the colleges and schools are educationally separate. They are interdependent, and together form a unit. In addition to the courses mentioned as given in each college and school, instruction in military science and physical training is provided. The organization is as follows:

I. The College of Literature and Arts.
II. The College of Engineering.
III. The College of Science.
IV. The College of Agriculture.
V. The Graduate School.
VI. The School of Library Science.
VII. The School of Music.
VIII. The College of Law.
IX. The College of Medicine.
X. The School of Pharmacy.
XI. The School of Dentistry.

THE COLLEGE OF LITERATURE AND ARTS

The College of Literature and Arts offers—

1. General courses, offering a wide range of electives.
2. Courses under the group system, including—

a. The Classical Group.
b. The English Group.
c. The German and Romanic Language Group.
d. The Latin and Modern Language Group.

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e. The Philosophical Group, including Education, Mathematics, Philosophy and Psychology.

f. The Political Science Group, including History, Economics and Government.

g. The Commerce and Industry Group, offering training for business.

h. The Library Science Group.

THE COLLEGE OF ENGINEERING

The College of Engineering offers courses—

1. In Architecture.
2. In Architectural Engineering.
3. In Civil Engineering.
4. In Electrical Engineering.
5. In Mechanical Engineering.
6. In Municipal and Sanitary Engineering.
7. In Railway Engineering.

THE COLLEGE OF SCIENCE

The College of Science offers courses in—

1. General Science.
2. Chemistry.
3. Education.
4. Household Science.
5. Library Science.
6. Mathematics.
7. Physics.
8. Studies Preliminary to Medicine.

COLLEGE OF AGRICULTURE

The College of Agriculture offers courses in—

1. Agronomy.
2. Animal Husbandry.
3. Dairy Husbandry.
4. Horticulture.
5. Household Science.
6. Veterinary Science.

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THE GRADUATE SCHOOL

The Graduate School offers courses in—

1. Agriculture.
2. Engineering.
3. Literature, Philosophy, and the Arts.
4. The Sciences.

The departments in which courses of graduate study are given will be found under the "General Description of Courses" (p. 164), and the separate graduate courses offered are described in connection with the proper subjects in the list of courses which there follows.

THE SCHOOL OF LIBRARY SCIENCE

The School of Library Science, or the State Library School, offers a course of study extending over five years, three of which are in either the College of Literature and Arts or the College of Science. The last two years are devoted to courses in Library Science in the Library School. The full course leads to the degree of bachelor of library science.

THE SCHOOL OF MUSIC

The School of Music offers courses in vocal and instrumental music, leading to the degree of bachelor of music.

THE COLLEGE OF LAW

The College of Law offers a course of study leading to the degree of bachelor of laws.

THE COLLEGE OF MEDICINE

The College of Medicine offers a course of study leading to the degree of M.D.

THE SCHOOL OF PHARMACY

The School of Pharmacy offers a course in all branches necessary to a complete scientific and practical knowledge of

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pharmacy, including pharmacy, chemistry, materia medica, botany, physics, and physiology. The course leads to the degree of graduate in pharmacy.

THE SCHOOL OF DENTISTRY

The School of Dentistry offers a course leading to the degree of D.D.S.

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COLLEGE OF LITERATURE AND ARTS

AIMS AND SCOPE

The College of Literature and Arts includes those branches usually comprised in a department of philosophy and arts, with the exception of the natural sciences. The aim of the College is a double one: to furnish a liberal education, and to afford opportunity for specialization in art, literature, philosophy, history, and the political sciences, theoretical and applied.

Students may graduate either under a system offering a choice of a considerable number of subjects, or under one in which the principal part of their work is in a single line of study, or a group of related lines. The subjects which may be selected for this special study are listed as major electives on page 76. These two systems are named respectively the general course system, and the group system.

The only degree given in this College is that of A.B.

THE GENERAL COURSE SYSTEM

Under the General Course System the student may select his studies from as wide a range of subjects as he pleases, restricted only by a certain minimum of prescribed work, and by certain requirements as to the time which must be spent upon each subject in order to secure a reasonable degree of concentration. The prescribed subjects are part of the work of the first two years. So far as possible, the work of the freshman year must be made up wholly of prescribed

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subjects, and the rest of the prescribed work, excepting science, must be done in the sophomore year. Within the limits of the prescribed work, however, the student is permitted a choice of lines of study. For example, while a year of science is prescribed for all students, any one or two of the sciences may be chosen.

After finishing the prescribed subjects, each student must elect a sufficient number of courses to yield him the necessary credits for graduation. At least two electives must be pursued, each for two years, so that the student shall secure at least sixteen hours' credit in each. These two subjects are known as his majors. The word is applied in the general course system to any subjects primarily classed in the College of Literature and Arts, in which the student secures at least sixteen hours' credit. The subjects are listed as major electives, on page 76. If the student pursues one of these subjects for less than two years, it is credited to him as a minor, as is also any subject not there listed, regardless of the time spent on it.

In the choice of his electives other than his majors, the student may take a minimum of work in each of a maximum number of subjects, or he may take a maximum amount of work in the minimum number of subjects necessary to fill up his time according to the rules of the University. The elective minor courses open to the students of the College include subjects offered in the other colleges and schools of the University. The sciences are not an integral part of the work of the College of Literature and Arts, but they are so important a part of a liberal education that every student of the College is earnestly urged to extend his study of them as far as may be. Certain courses in the College of Engineering, in the College of Agriculture, in the School of Library Science, and in the College of Law, may also be counted for credit in the College of Literature and Arts. These are more particularly mentioned under "minor electives," on page 77.

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REQUIREMENTS FOR GRADUATION UNDER THE GENERAL COURSE SYSTEM

Credit for 130 hours (p. 164), including the prescribed military and physical training, is required for graduation under the general course system. Every student must take the prescribed subjects; in addition, he must select at least two subjects from the list of major electives, and he must then choose work sufficient to yield him the remainder of the required number of hours.

No credit is granted in any subject unless the student pursues it for the minimum time for which any course in the subject is offered. For example, if a student elects a course which yields two hours' credit for one semester,* he must stay in the class during the semester in order to get any credit at all. No credit is granted for less than the whole year's work in the beginning year of the study of any foreign language. After the first year credit may be obtained for the work of a single semester.

THE GROUP SYSTEM

A group course is one in which the student is required to pursue a single line of study for three consecutive years, in addition to doing the prescribed work and writing a thesis. At least sixteen hours' work in the chosen subject must be done before the beginning of the senior year. No student may be enrolled in a group course without the permission of the head of the department in which he wishes to do his principal work. The subject in which the twenty-four hours' work is required is called the student's major, and must be chosen from the list of major electives (p. 76).

As a rule, only those students who take a group course will be recommended from this College for fellowships, scholarships, and other university honors.

REQUIREMENTS FOR GRADUATION UNDER THE GROUP SYSTEM

Credit for 130 hours, including the prescribed military and physical training, together with an acceptable thesis, is

* See for example English 17, p. 216.

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required for graduation under the group system. Every student must take the prescribed subjects. Not later than the beginning of his junior year he must designate the group in which he wishes to be enrolled. He must at that time choose one subject in the group as his major, the study of which, alone or with the subjects designated as specifically preparatory to it, he must pursue during the remaining two years, and secure in it at least twenty-four hours' credit in all. He must then select, with the approval of the head of the department in which his major subject belongs, a sufficient number of other studies to yield him the necessary number of hours.

The thesis required must be on a topic connected with the major study, and must be the required work in the major subject, in whole or in part, during the student's senior year.

As in the general course system, no credit is given for parts of courses. The same work may not be credited both as major and minor.

The groups are as follows:

The *Classical Group,* including Greek and Latin as the major subjects. One of these languages must be taken for twenty-four, the other for sixteen hours.

The *English Group* including English literature and Rhetoric. Students in this group must take two years of French or German before the beginning of the junior year, or must be able to read one of these languages easily. Old English (Engl. 8) must be taken by all students who elect English literature as a major.

The Scandinavian languages may be offered as minors.

The *German and Romanic Language Group.* Either German or French may be taken as a major, but at least sixteen hours' credit in the other must be secured. Besides the required work in English literature and rhetoric students must elect at least ten hours' additional work in these subjects. Students of marked ability who take French as a major, are advised to take the courses offered in Spanish or Italian.

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The *Latin and Modern Language Group,* including Latin, German, and French. Sixteen hours' credit must be obtained in the language chosen for a minor.

The *Philosophical Group* including education, mathematics, philosophy, and psychology, as major subjects. In this group the second year of the student's work is devoted to studies specifically preparatory to the principal subject, which is itself taken up at the beginning of the third year.

Students in this group who make *philosophy* a major must, in the second year, make ten hours of credit from among these subjects: Anthropology, psychology, economics 17 (sociology), Greek 8.

Those who make *psychology* their major subject must, in their second year, make ten hours from among these subjects: economics 17; philosophy 2, 8, 9; physiology 4.

When *education* is the major, the work specifically preparatory is outlines of philosophy (philosophy 2, 3, 4), and elementary and educational psychology.

Those students who take *mathematics* as their major work must take the courses in mathematics numbered 1, 3, 6, 8a, 8b, 10, 11, 15, 16, 17, and may elect as many more as they choose. They must also make sixteen hours' credit in either German or French.

The *Political Science Group* including economics, history, and science of government. All students in this group must take the three elementary courses: history 1, economics 1, and science of government 1. They must also be able to read either French or German by the beginning of their senior year.

The *Business Group,* including economics, commerce and industry. All students in this group must make economics their major, selecting the advanced courses adapted to their purpose. These they must supplement with the necessary work in science, materials of commerce, mechanical technology, language, and law. The work of the group and the conditions of graduation are fully described in the special circular on *Courses of Training for Business.*

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The *Library Science Group.* Students in this group must take in their senior year the courses in library science numbered 1, 2, 3, 4, 7, 14. During their course they must take the prescribed work, must secure sixteen hours' credit in French or German, sixteen in English and four in economics.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Advanced Algebra (Math. 1, 2); 2 or 3 hours.
English 1; 4 hours.
French 1, German 1 and 3, Greek 1, 2, or Latin 1; one year.
History 1, or 11 and one semester of 2; or Economics 7 and History 2, or Economics 7 and History 11; 6 hours.*
Logic (Philosophy 1a or 1b); 3 hours.
Military 1, 2; 5 hours.
Physical Training—
For men, 2 hours.
For women, 3 hours.
Natural Science; 8-10 hours.
†Rhetoric 1, 3; 10 hours.
Trigonometry (Math. 3, 4); 3 or 2 hours.

ELECTIVE

MAJOR ELECTIVES

Following are the subjects which may be elected as majors.‡ Minor work may be elected from those not chosen as majors.

Economics.
Education.
English.
French.
German.
Greek.
History.
Household Science.
Latin.
Library Science.
Mathematics.
Philosophy.
Psychology.
Rhetoric.
Science of Government.

* Students in the classical group may elect Hist. 5 or 6.
† Students who secure an average semester grade of 85 per cent in Rhetoric 1 are excused from Rhetoric 3. Students in any of the courses of training for business must take Rhetoric 10, and are excused from taking course 3.
‡ See pp. 72, 73.

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MINOR ELECTIVES

The necessary number of hours additional to those provided for in the prescribed subjects and the chosen major electives, may be secured from any of the subjects listed above as major electives, or from any other subjects offered in the College of Literature and Arts, or in the College of Science, the requirements for which the student can meet. Subjects offered in the College of Literature and Arts, but not included among the major electives, are Art and Design,* Anthropology, Comparative Literature and Philology, Italian, Spanish, and Physical Training.† The following subjects from the offerings in other colleges and schools of the University may also be taken as minors.

Domestic Architecture (Arch. 27); History of Architecture (Arch. 29); Law: Constitutional Law (Law 22); Elements of Jurisprudence (Law A); International Law (Law 23); Municipal Corporations (Law 24); Roman Law (Law 27); Library Science:‡ Elementary Reference (Lib. 2); Selection of Books (Lib. 3); History of Libraries (Lib. 7); Bibliography (Lib. 6); Advanced Reference (Lib. 8); Public Documents (Lib. 13); Book-making (Lib. 9); Library Seminary (Lib. 14); Music: History of Music (Mus. 1); Orchestra (Mus. 8); Choral Society (Mus. 8); Surveying (C. E. 10); Thremmatology.

COURSE OF INSTRUCTION.

All the prescribed subjects except science *must be finished by the end of sophomore year.* The science may be deferred until junior year. The following statement gives the years and semesters in which the subjects occur:

FIRST YEAR

Fifteen to eighteen hours' work a week, including military and physical training, must be chosen each semester

* Not more than twenty hours of Art and Design may be counted for the Arts' degree.

† Not more than five hours of physical training, including the amount prescribed, may be counted for the Arts' degree.

‡ No library science, except course 12, may be elected before senior year.

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from among the following subjects: those in italics *must be* in the list chosen:

First Semester—

History: Mediæval and Modern European History (Hist. 1), or English Economic History (Econ. 7), or Nineteenth Century History (Hist. 2).

Language and Literature: English 1 or 2, or 16 and 17; French 1, or German 1, or Greek 1, or Latin 1; *Rhetoric* 1.

Mathematics: Advanced Algebra and Trigonometry (Math. 1 and 3, or 2 and 4).

Military: Drill (Mil. 2).

Natural Science: Astronomy 5; Botany 2 or 11; Chemistry 1; Entomology 1, 4; Geology 8; Zoölogy 10.

Physical Training—

For men—Physical Training 1, 3.

For women—Physical Training 7, 9.

Second Semester—

History: Mediæval and Modern European History (Hist. 1) continued, or English History (Hist. 11), or Nineteenth Century History (Hist. 2).

Language and Literature: English 1, or 2, or 17; French 1, or German 3, or Greek 2, or Latin 1, continued; *Rhetoric* 1, continued.

Military: Tactics and Drill (Mil. 1, 2).

Natural Science: Astronomy 3 or 4; Botany 1; Chemistry 1a, 2, 2a, 3a, or 3b and 4; Entomology 1, 4; Geology 3; Physiology 4; or Zoölogy 1.

Physical Training—

For men—Physical Training 1, 3.

For women—Physical Training 7.

SECOND YEAR

Fifteen to eighteen hours' work per week, including military drill, must be chosen each semester. This work *must include all of the prescribed subjects which were not taken in freshman year,* except science. Those who elected history 11 in freshman year must take one semester of history 2 this year. (See p. 228, and the classification under first year.) If the science is taken in this year *zoölogy 11*

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and *physics 2a* may be elected, in addition to the science courses listed above.

The following subjects must be taken:—

Logic: (Phil. 1a first semester, or Phil. 1b second semester).

Military: Drill (Mil. 2) both semesters.

*Rhetoric:** English Composition (Rhet. 3); first or second semester.

The remaining hours may be made up by the election of any subjects the requirements for which the student can meet.

THIRD AND FOURTH YEARS

The studies of these are all elective, except that the required science must be taken in the third year if it has not been taken before. *Thremmatology* may be taken in the third year as part of the science required.

TRAINING FOR BUSINESS

Courses in economics, commerce and industry are offered in combination with courses in language, law, materials of commerce, and mechanical technology, with the aim of providing a university training for business life. The combined courses are designed to give a student a knowledge of the general principles that underlie all businesses, with special training in the technical features of some particular calling.

The subjects of study are arranged to furnish training for (1) general mercantile business, (2) banking, (3) transportation, (4) journalistic work, (5) insurance.

The work of the class-room is supplemented with lectures by practical specialists, and with visits of inspection to industrial and mercantile establishments.

The outline of the General Business Course is given below. The other courses are described in detail in a special circular which may be had on application to the Registrar.

* For students who did not get a grade of 85 in Rhetoric 1, both semesters.

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GENERAL BUSINESS COURSE

FIRST YEAR

1. Commercial Geography (Econ. 26); English Economic History (Econ. 7); French or German or Spanish or Italian; Military; Physical Training; Rhetoric and Themes (Rhet. 1); Trigonometry and Algebra (Math. 2, 4).

2. Commercial Geography (Econ. 26); French or German or Spanish or Italian; Military; Physical Training; Political History of England (Hist. 11); Rhetoric and Themes (Rhet. 1).

SECOND YEAR.

1. Business Writing (Rhet. 10); Foreign language continued; History of Commerce (Econ. 27); Military; Principles of Economics (Econ. 1); Science, chosen according to course.

2. Business Writing (Rhet. 10); Economic History of United States (Econ. 22); Eng. Literature (Eng. 1); Foreign language continued; Logic (Phil. 1b); Money and Banking (Econ. 3); Military.

THIRD YEAR.

1. Corporation Management and Finance (Econ. 20); Domestic Commerce (Econ. 28); Foreign language continued; Labor Problem (Econ. 12); Materials of Commerce.

2. Accounting; City Government (Govt. 3); Foreign Commerce (Econ. 29); Foreign language continued; Industrial Consolidations (Econ. 11); Materials of Commerce.

FOURTH YEAR.

1. Commercial Law (Law B); Commercial Policy of United States (Econ. 30); or Domestic and Foreign Markets of United States (Econ. 33); Elective; Practical Banking (Econ. 9); Thesis.

2. Commercial Law (Law B); Commercial Policy of United States (Econ. 30), or Domestic and Foreign Markets of United States (Econ. 33); Elective; Generation and Transmission of Power (M. E. 31), or Machinery and Manufacturing (M. E. 30); Public Finance (Econ. 5); Thesis.

LEGAL STUDY AND COLLEGE WORK

By a proper selection of his studies it is possible for a prospective law student to take both his degree in arts and his degree in law in six years. A student who intends to

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do this should first do all the work prescribed for candidates for the degree of A.B. (see pp. 73, 74); he should then take studies sufficient to leave him not more than fifteen hours' credit to make in the senior year of his college course. The student during this year should enroll in the College of Law and take the first year's work there. Of this work ten hours, but no more, may be counted in the College of Literature and Arts. These ten hours must be in contracts (Law 1) and real property (Law 3).

Students are not permitted to take this law work for credit toward the arts' degree until their senior year.

A fee of five dollars is charged for every law subject, except as described on page 77, taken by students who do not pay the regular law school fees.

If a student who intends to study law can spend but two years in preliminary work, he will do well to take the following subjects:

FIRST YEAR

1. English Economic History (Econ. 7); Mediæval and Modern European History (Hist. 1); Mathematics 2, 4; Military 2; Physical Training 1, 3; Rhetoric and Themes (Rhet. 1).

2. English History (Hist. 11); English Literature (Eng. 1 or 2); Mediæval and Modern European History (Hist. 1); Military 1 and 2; Physical Training 1, 3; Rhetoric and Themes (Rhet. 1).

SECOND YEAR.

1. Economics 1; American History (Hist 3), or English Constitutional History (Hist. 4), or Historical Introduction to Contemporary Politics (Hist. 2); Logic (Phil. 1a); Military 2; Oral Discussions (Rhet. 5); Political Institutions (Govt. 1); Public Speaking (Rhet. 7b).

2. Five hours in economics; American History (Hist. 3), or English Constitutional History (Hist. 4), or Historical Introduction to Contemporary Politics (Hist. 2); Military 2; Oral Discussions (Rhet. 5); Political Institutions (Govt. 1); Public Speaking (Rhet. 7b).

If a student can spend but one year in preliminary work he may select from the above course such subjects as he is prepared for.

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PREPARATION FOR TEACHING

Students who wish to prepare themselves for teaching are advised to enroll in the group (pp. 74-6) in which occur the subjects they wish to teach. They should elect as many courses in education and psychology as they have time for, and should secure at least ten hours in these subjects.

As a rule, students who arrange their courses of study with reference to teaching particular subjects will have the preference in recommendations to positions calling for teachers of those subjects.

DESCRIPTION OF DEPARTMENTS

ART AND DESIGN

All the courses of the department are open to special students of art. These students enjoy opportunities beyond the reach of students in the usual art school, since the work of other departments of the University is open to them without additional expense.

On account of the close connection of the department of art and design with the other departments of the University, students may specialize in the artistic sides of their chosen courses of study, and students who wish to become teachers of drawing or of manual training in the public schools may arrange courses to suit their individual needs.

COMMERCE

See under Economics.

ECONOMICS

The department of economics includes general economics and economic history, sociology and statistics, finance, commerce and industry. The courses are grouped to provide training for citizenship, graduate study and specialization in the lines mentioned above, and training for business life. The library equipment of books and periodicals has recently been much increased, and is now excellent.

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EDUCATION

The department of education aims to meet the needs of the prospective secondary school teacher, and of the prospective city superintendent. The normal schools of our state are well equipped for supplying the wants of the elementary schools, and it is intended that this work shall be supplemented, though not duplicated, here.

The department possesses a pedagogical library and museum, which contains various materials of interest and value to the student of the theory and art of teaching, and forms a working pedagogical laboratory.

ENGLISH LANGUAGE AND LITERATURE

The courses are designed to give a continuous view of the twofold subject from the earliest times to our own day. In junior and senior years courses are offered in both lines, so that students, having had the fundamental work of the sophomore year, may, if desired, confine themselves either to philology or to literature.

FRENCH

(See Romanic Languages, p. 85.)

GERMAN

Four years of instruction are offered in this subject. By alternating the work in the third and fourth years, provision is made for enabling students who are able to begin with the third year's work to pursue the subject throughout their course.

GOVERNMENT (SCIENCE OF)

The work in science of government is planned to give training for citizenship to lay a foundation for the future study of law or for active political life, and to furnish advanced study for those who intend to teach the subject.

GREEK

See courses, p. 227.

HISTORY

An effort is made, not merely to give students a general knowledge of historical facts, but also to give them some

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conception of the aims and methods of historical science, and of the materials with which it deals. To this end exercises in historical investigation, more or less elementary, form a prominent part of the work.

HOUSEHOLD SCIENCE

The work of this department aims to be at once scientific, artistic, and practical. It is intended to afford training for the proper discharge of the duties of the home. A fuller description is given on page 123. All the work of the department counts towards the arts' degree.

ITALIAN

(See Romanic Languages, p. 85.)

LATIN

See courses, p. 235.

LIBRARY SCIENCE

See description of work, p. 134, courses p. 239, and library science group, p. 76. Course 12 is open to all students without previous requirement.

MATHEMATICS

All the courses offered by the department of mathematics are open to the students of the College of Literature and Arts. These courses are so arranged that a student may take continuous work in the subject for from one to four years. Mathematics is included in the philosophical group.

MILITARY SCIENCE

The work of the department of military science is prescribed for all male students of the Colleges of Literature and Arts, Engineering, Science, and Agriculture. A full description of the work offered and of the aims and scope of the department will be found farther on in the catalog. (See pp. 257, 294.)

PHILOSOPHY

The work in this department includes history of philosophy, metaphysics, ethics, esthetics, and logic, and is so ar-

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ranged that the student may take a continuous course for either one or two years. (The department for the present offers courses in anthropology.)

PHYSICAL TRAINING

The work of this department is offered to all students in the University. Consequently the department properly belongs in all the colleges. A full description of its aim and scope is given farther on. (See p. 296.)

PSYCHOLOGY

Historically, psychology is treated with a view to giving the student a connected idea of its development. Its experimental development and recent phases are given special attention.

RHETORIC AND ORATORY

See courses, p. 73.

ROMANIC LANGUAGES AND LITERATURES

This department offers four years of instruction in French and one year each in Spanish and Italian. A graduate course is offered in Old French; some of the more important texts are studied, and attention is given to the origins of the language.

SOCIOLOGY

See courses 15 and 17 under economics, p 203. See for allied courses, anthropology, p. 172, philosophy, p. 263, and English 21, p. 214.

SPANISH

(See Romanic Languages above.)

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COLLEGE OF ENGINEERING

AIMS AND SCOPE

The purposes of the College of Engineering are thoroughly to prepare men for the professions of engineering and architecture, and also to offer a first-rate training for future managers of great business enterprises. The different courses must therefore comprise both general and technical studies. A primary requisite of success is the ability to present briefly and clearly ideas in terse, correct, and vigorous English. A large fund of general knowledge is now essential to every professional man in order to maintain proper influence among business men. An acquaintance with social customs and life is equally helpful.

The marked tendency now toward specialization requires the graduate to be able successfully to enter any specialty of his profession, thus requiring both breadth and thoroughness in his technical training, with frequent applications to practical problems. Employers have no time to educate assistants in the details of their work.

EQUIPMENT

The special equipment of each department is described in connection with that department. The general equipment of the College consists of a good reference library of indexes, pocket-books, mathematical tables, and other works, together with a very valuable collection of apparatus for economizing time and ensuring accuracy in engineering calculations.

The principal instruments are Thomas's 10-place arith-

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mometer, giving accurate results to 20 places; Thacher's computing scales; Grant's computing machines; other calculating machines, various types of slide rules, adders, etc.; Amsler's polar planimeter and Amsler's integrator; Coradi's linear and polar planimeters for very accurate measurement of irregular plane areas; Coradi's pantagraph for the automatic reduction of drawings and maps.

DESCRIPTION OF DEPARTMENTS

ARCHITECTURE

This department offers two courses of instruction and practice, preparing the graduate to enter respectively the professions of architect and architectural engineer.

The course in architecture prepares for the examination prescribed by the state license law for architects and for the general practice of architecture.

The specialties of the course are construction, design, and architectural history.

EQUIPMENT

A large collection of casts of ornament, models of structures, working drawings and blue prints, specimens of stones, bricks, tiles, terra cotta, fixtures and fittings, etc., is arranged in the architectural museum. More than 20,000 engravings, photographs, etc., mounted on cards, are classified for quick reference in the drawing rooms. An electric lantern is used in a specially fitted room, together with a collection of 4,500 lantern slides illustrating the history of architecture and of painting. A very fine architectural library is located in a large room in the department, and is open for use by students during the entire day.

COURSE OF INSTRUCTION

Required for Degree of B. S. in Architecture

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings

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(Drawing, Gen. Eng'g 1a, 1b, 1c); Free-hand Drawing or Modeling (Arch. 20 or 21); French 1, or German 1 or 4;* Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Orders of Architecture (Arch. 8); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3.

Second Year

1. Applied Mechanics (Theo. and App. Mech. 4); Wood Construction (Arch. 2); Architectural Perspective (Arch. 14); Physics 1, 3; Monthly Problems (Arch. 9); Rhetoric 2; Military 2.

2. Strength of Materials (Theo. and App. Mech. 5); Masonry and Metal Construction (Arch. 3); Requirements and Planning of Buildings (Arch. 15); Physics 1, 3; Monthly Problems (Arch. 9); Rhetoric 2; Military 2.

Third Year

1. History of Architecture (Arch. 6); Historic Ornament (Arch. 7); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Architectural Composition (Arch. 18); Chemistry 1, or Economics 2; Art and Design 3a; Monthly Problems (Arch 9).

2. History of Architecture (Arch. 6); Historic Ornament (Arch. 7); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Architectural Designing (Arch. 17); Working Drawings and Residence Design (Arch. 10, 16); Art and Design 8a; Monthly Problems (Arch. 9).

Fourth Year

1. Superintendence, Estimates and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Renaissance Design (Arch. 22); Gothic and Romanesque Design (Arch. 23, 24); Mural Decoration (Arch 28); Architectural Readings (Arch. 31); Monthly Problems (Arch. 9).

2. Design of Ornament (Arch. 25); Mural Decoration (Arch. 28); Surveying (Civil Eng'g 10); Architectural Readings (Arch. 31); Monthly Problems (Arch. 9); Elec. Lighting (E. E. 9); Thesis (Arch. 30).

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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ARCHITECTURAL ENGINEERING

This course of study prepares graduates for professional practice as architectural engineers, structural designers and computers, as well as superintendents of construction. It is intended for students who prefer the structural and mathematical side of the profession to its artistic side, and who desire to pursue the full engineering course in mathematics and to acquire a thorough knowledge of the iron and steel construction now employed in buildings. It differs from the architectural course principally in the addition of a second year of mathematics and of a year of study in bridge analysis and design, and in devoting considerably less time to architectural drawing and design.

COURSE OF INSTRUCTION

Required for Degree of B.S. in Architectural Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1), or Free-hand Drawing or Modeling (Arch. 20 or 21); French 1, or German 1 or 4;* Military 2; Physical Training 1, 3 or 7.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); or Free-hand Drawing (Arch. 20 or 21); or The Orders of Architecture (Arch. 8); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Differential Calculus (Math. 7); Wood Construction (Arch. 2); Architectural Perspective (Arch. 14); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Masonry and Metal Construction (Arch. 3); Requirements and Planning of Buildings (Arch. 15); Physics 1, 3; Rhetoric 2; Analytical Mechanics (Theo. and App. Mech. 1a); Military 2.

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and App. Mech. 1b, 2a); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Sanitary Construction (Arch. 4); Chemistry 1.

2. Resistance of Materials, Hydraulics (Theo. and App. Mech. 2b, 3); Engineering Materials (Theo. and App. Mech. 6); History of Architecture (Arch. 6); Architectural Seminary (Arch. 11); Graphic Statics and Roofs (Arch. 5); Chemistry 16; Working Drawings (Arch. 10).

Fourth Year

1. Superintendence, Estimates, and Specifications (Arch. 12); Heating and Ventilation (Arch. 13); Architectural Engineering (Arch. 19); Bridge Analysis and Details (Civil Eng'g 12, 13); Architectural Readings (Arch. 31).

2. Bridge Details and Design (Civil Eng'g 13, 14); Surveying (Civil Eng'g 10); Architectural Engineering (Arch. 19); Architectural Readings (Arch. 31); Lighting (E. E. 9); Thesis (Arch. 30).

CIVIL ENGINEERING

The design in this department is to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice. While the instruction aims to be practical by giving the student information and practice directly applicable in his future professional work, the prime object is the development of the mental faculties. The power to acquire information and ability to use it are held to be of far greater value than any amount of so-called practical knowledge.

EQUIPMENT

This department has an extensive equipment of compasses, engineers' transits, solar transits, levels,—ordinary and precise,—plane tables, sextants, chronometers, barometers, etc. For the lecture room, the department is provided with a collection of structural shapes and with full-sized joints of an actual railroad bridge, sections of columns, eye-bars, etc., and a collection of lithographs, photographs, and blue-prints of bridges and buildings.

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The *cement laboratory* occupies rooms in Engineering Hall, and is provided with slate tables, testing machines, molding machines, sieves, etc., and sample barrels of hydraulic cement, varieties of sand, and other necessary materials.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Civil Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching, and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1); French 1, or German 1 or 4;* Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); (Theo. and App. Mech. 1a); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and App. Mech. 1b, 2a); Railroad Engineering (Civil Eng'g 4); Chemistry 1; Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, and Hydraulics (Theo. and App. Mech. 2b, 3, 6); Graphic Statics (Civil Eng'g 20); Road Engineering (Mun. and San. Eng'g 1); Descriptive and Practical Astronomy (Astron. 3, 6); or Engineering Geology (Geol. 13); Steam Boilers (Mech. Eng'g 17); Railroad Structures (Civil Eng'g 19).

Fourth Year

1. Bridge Analysis (Civil Eng'g 12); Bridge Details (Civil Eng'g 13); Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Metal Structures (Civil Eng'g 24); Thesis (Civil Eng'g 30).

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* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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2. Bridge Design (Civil Eng'g 14); Sewerage (Mun. and San. Eng'g 3); Tunneling (Civil Eng'g 18); Economics 2; Engineering Contracts and Specifications (Civil Eng'g 16); Thesis (Civil Eng'g 30).

ELECTRICAL ENGINEERING

This is a course in theoretical and applied electricity. The first two years of work are substantially the same as in the other engineering courses. The last two years include, in addition to the regular electrical work, courses in civil and mechanical engineering, in theoretical and applied mechanics and in economics.

EQUIPMENT

The lecture rooms, drafting rooms, and laboratories are equipped with the latest and best apparatus. In the dynamo laboratory are various sizes and types of direct and alternating current dynamos, motors, and converters; transformers for all classes of polyphase testing; direct and alternating current switch-boards, of eight marble panels each, with every appliance for expeditious handling of electric currents. The workshop is fitted for the several branches of electrical construction. Power is supplied from the storage battery installation of this department and from the University electric light and power plant, whose direct and alternating current dynamos, driven by steam engines, also afford many facilities for experimental work.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Electrical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); French 1, or German 1 or 4;* Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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(Drawing, Gen. Eng'g 2a); French 1, or German 3 or 5 or 6; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Chemistry 1; Electrical and Magnetic Measurements (Physics 4); Dynamo-Electric Machinery (Elect. Eng'g 16); Steam Engines (Mech. Eng'g 16).

2. Resistance of Materials, Hydraulics (Theo. and Appl'd Mech. 2b, 3); Steam Boilers (Mech. Eng'g 17); Dynamo-Electric Machinery (Elect. Eng'g 16); Electrical and Magnetic Measurements (Physics 4); Electrical Engineering Laboratory (Elect. Eng'g 22); Surveying (Civ. Eng'g 10).

Fourth Year

1. Telegraphy and Telephony (E. E. 4) (2); Alternating Currents (E. E. 5) (3);; Electrochemistry (E. E. 12) (2); Seminary (E. E. 13) (1); Electric Distribution (E. E. 15) (2); Electrical Engineering Laboratory (E. E. 23 and E. E. 27) (2); Electrical Design (E. E. 32) (2); Economics (Econ. 2) (2).

2. Light and Power Plants (E. E. 11) (1); Seminary (E. E. 13) (1); Advanced Alternating Currents (E. E. 14) (2); Traction (E. E. 17) (2); Electrical Engineering Laboratory (E. E. 24 and E. E. 25) (2); Electrical Design (E. E. 33) (1); Estimates, Specifications, and Superintendence (M. E. 10) (1); Mechanical Engineering Laboratory (M. E. 13) (2); Economic Problems (Econ. 16) (2); Thesis.

MECHANICAL ENGINEERING

It is the object of this course to give the student a thorough training in the theoretical principles underlying the science of machines and mechanics, and at the same time to

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make him practically familiar with some of the numerous applications of these principles.

EQUIPMENT

The equipment of this department is arranged for work of three kinds—class and drawing room work, laboratory work, and shop practice.

The *drawing rooms* are equipped with card indexes, reference books, catalogs, odontographs, gear charts, etc. In the cabinet rooms are kinematic models and sectioned steam specialties.

The *steam engineering laboratory* is in the *Mechanical and Electrical Engineering Laboratory*. It contains ten steam engines available for testing purposes. The facilities for boiler testing are excellent. There are several types of boilers equipped with different kinds of automatic stokers. There are also various kinds of steam and power pumps and numerous steam specialties arranged for tests.

The laboratory contains three gas engines, an air compressor, a hot air engine, a large volume fan, and a complete outfit of instruments used by the mechanical engineer for testing purposes.

The shops of the College are in charge of this department; they consist of a wood shop, foundry, forge shop, and machine shop.

The shops are large, well lighted and attractive; they are all equipped with modern tools and furnish abundant facilities for giving the student the necessary practice in this line of work.

Three hundred and fifty students can be accommodated with the present facilities.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Mechanical Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings

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(Drawing, Gen. Eng'g 1a, 1b, 1c); French 1, or German 1 or 4;* Shop Practice (Mech. Eng'g 1); Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry (Drawing, Gen. Eng'g 2); French 1, or German 3 or 5 or 6; Shop Practice (Mech. Eng'g 1); Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

2. Integral Calculus (Math. 9); Analytical Mechanics (Theo. and App. Mech. 1a); Physics 1, 3; Rhetoric 2; Elements of Machine Design (Mech. Eng'g 4); Shop Practice (Mech. Eng'g 2); Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1b, 2a); Chemistry 1;† Mechanism (Mech. Eng'g 5); Electrical Engineering (Elect. Eng'g 1 and 21); Steam Boilers (Mech. Eng'g 24).

2. Resistance of Materials and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Chemistry 16; Power Measurements (Mech. Eng'g 3); Graphical Statics of Mechanism (Mech. Eng'g 18); Steam Engines (Mech. Eng'g 23); Surveying (Civil Eng'g 10); Materials of Engineering (Theo. and Appl'd Mech. 6).

Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Heat Engines (Mech. Eng'g 6); High-Speed Steam Engines and Valve Gears (Mech. Eng'g 14); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Economics 2; Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Estimates (Mech. Eng'g 10); Advanced Designing (Mech. Eng'g 9); Advanced Mechanical Laboratory (Mech. Eng'g 12); Economics 16; Seminary (Mech. Eng'g 19); Thesis.

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* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

† Students who offer the equivalent of chemistry 1 for admission must arrange for a substitute.

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RAILWAY ENGINEERING

The railroad interests of the State of Illinois, as well as of the United States, have become so important as to demand separate recognition in the courses of those educational institutions which offer instruction in engineering.

Wishing to meet the demand for specialization in this important work the University has established an undergraduate course leading to the degree of B.S. in *Railway Engineering* and also provides for graduate instruction and investigation leading to a second degree.

The department of civil engineering furnishes special instruction relating to construction and maintenance of way. The course is devoted to the problems of motive power and machinery, including construction, design, and operation of locomotives and rolling stock, and tests of fuel, water supply, materials, and supplies.

EQUIPMENT

The shops and laboratories of the departments of mechanical and electrical engineering, applied mechanics, and chemistry furnish abundant laboratory facilities for work along these special lines.

The department possesses a considerable amount of class room and laboratory material, such as photographs, blue prints, and samples of manufactured specialties of value to the students of this work.

This department now owns, with the Illinois Central R. R., a fully equipped railway test car, No. 17. This car has been designed for locomotive and railway tests, and is used for no other purpose. It has been equipped with special reference to the following service:

1. Locomotive road tests for economy.
2. Locomotive capacity tests and measurements of train resistance.
3. Air brake service inspection.
4. Stationary plant tests at railway shops and water stations.

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The department owns a continuous steam engine indicator, apparatus for determining the effect of scale deposits on the transfer of heat through the tubes, as well as considerable apparatus designed and built for various tests of locomotives in actual service.

The New York Air Brake Company has recently presented to the department a complete equipment of automatic air-brakes for engine, tender, and five cars.

The railway shops of the P. & E. Div. of the C. C. C. & St. L. Ry. at Urbana furnish exceptional opportunities for inspection of construction and repair work, and the assured aid that this department will receive from the management of these shops will be of great value to the student.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Railway Engineering

First, Second and Third Years

Same as the course of instruction in mechanical engineering.

Fourth Year

1. Thermodynamics (Mech. Eng'g 7); Heat Engines (Mech. Eng'g 6); Locomotive Engine Design (Ry. Eng'g 2); Shop Systems (Ry. Eng'g 3); Locomotive Road Tests (Ry. Eng'g 4); Economics 2; Seminary (Mech. Eng'g 19); Thesis.

2. Mechanics of Machinery (Mech. Eng'g 8); Compressed Air in Railway Service (Ry. Eng'g 5); Railway Estimates (Ry. Eng'g 6); Advanced Designing (Ry. Eng'g 7); Dynamometer Car Tests (Ry. Eng'g 8); Economics 16; Seminary (Mech. Eng'g 19); Thesis.

MECHANICS, THEORETICAL AND APPLIED

The courses in theoretical and applied mechanics are designed to meet the needs of students of the College of Engineering.

The laboratory of applied mechanics, comprising the materials laboratory and hydraulic laboratory, occupies a new building. The materials laboratory is equipped with testing machines for tension, compression, flexure, and torsion,

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and for testing paving brick and building materials. The hydraulic laboratory has a standpipe, pumps, water motors, measuring pits, Venturi meters, weir conduits, meter rating conduit, orifice boxes, weir boxes, and apparatus for experimental work on flow of water through pipes, hose, and nozzles. The University water-works furnishes an abundant supply of water at pressures up to 100 lbs. per sq. in.

MUNICIPAL AND SANITARY ENGINEERING

This course is designed for students desiring to make a specialty of city engineering work. It prepares for the varied duties of engineer of the department of public works of cities and includes instruction in modern methods of sanitation of cities.

INSTRUCTION

The methods of training are intended to develop power to take up and solve new problems connected with municipal public works, as well as to design and to superintend the ordinary constructions. Surveying, structural materials, and structural design are taught as in the civil engineering course. Chemistry, botany, and bacteriology, so far as necessary to a comprehension of the questions involved in water supply and sewage disposal, are given.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in Municipal and Sanitary Engineering

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); Lettering, Elements of Drafting, Sketching and Working Drawings (Drawing, Gen. Eng'g 1a, 1b, 1c); Shop Practice (Mech. Eng'g 1); French 1, or German 4;* Military 2; Physical Training 1, 3.

2. Analytical Geometry (Math. 6); Descriptive Geometry

* English may be taken instead by students who have presented 6 credits in one modern foreign language for admission to the University.

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(Drawing, Gen. Eng'g 2); Shop Practice (Mech. Eng'g 1); French 1, or German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3.

Second Year

1. Differential Calculus (Math. 7); Surveying (Civil Eng'g 21); Physics 1, 3; Rhetoric 2; Military 2.

2. Integral Calculus (Math. 9); Topographical Surveying (Civil Eng'g 22); Railroad Curves (Civil Eng'g 23); Physics 1, 3; Analytical Mechanics (Theo. and Appl'd Mech. 1a); Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics, and Resistance of Materials (Theo. and Appl'd Mechanics 1b, 2a); Bacteriology (Mun. and San. Eng'g 5a); Chemistry 1; Railroad Engineering (Civil Eng'g 4a); Electrical Engineering 1 and 21.

2. Resistance of Materials, and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Road Engineering (Mun. and San. Eng'g 1); Graphic Statics (C. E. 20); Chemistry 3b, 20; Steam Boilers (Mech. Eng'g 17); Steam Engines (Mech. Eng'g 23); Engineering Materials (Theo. and Appl'd Mech. 6).

Fourth Year

1. Bridges (Civil Eng'g 12, 13); Masonry Construction (Civil Eng'g 5); Water Supply Engineering (Mun. and San. Eng'g 2); Water Purification, Sewage Disposal and General Sanitation (Mun. and San. Eng'g 6a); Thesis.

2. Bridge Design (Civil Eng'g 14a); Engineering Contracts and Specifications (Civil Eng'g 16); Mechanical Engineering Laboratory (Mech. Eng'g 13); Sewerage (Mun. and San. Eng'g 3); Water Purification, Sewage Disposal, and General Sanitation (Mun. and San. Eng'g 6b); Economics 2; Thesis.

PHYSICS

LABORATORY AND EQUIPMENT

The physics department occupies, in Engineering Hall, a lecture room, with seats for 180 students; four adjoining rooms, for lecture apparatus and preparation; a general laboratory room 60 feet square, for first year experimental work; an adjoining apparatus room; six small laboratories

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on the first floor with masonry piers, a constant temperature room, a battery room, a work shop, and three offices for instructors. These rooms are supplied with gas, water, compressed air, vacuum pipes, polyphase, alternating and direct electric currents, and other facilities for instruction and investigation in physics. The laboratory contains a large collection of standard electrical and magnetic measurement apparatus from the best makers, together with various pieces and devices designed and constructed in the department. In optics there are spectrometers, Rowland diffraction gratings (plane and concave), a Fresnel optical bench, a complete photometer bench in a well-equipped dark room, a spectrum photometer, polarization apparatus, etc. The collection also includes apparatus for measurements of precision, such as balances, dividing engines, cathetometer, chronograph, Kater's pendulum, thermometers, etc. The work shop of the department is equipped with power lathe, milling machine and a good collection of tools. The services of a mechanician give the department facilities for making apparatus from original designs, both for instruction and investigation.

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COLLEGE OF SCIENCE

AIMS AND SCOPE

The College of Science is based upon the idea that the methods of science and the branches of study to which those methods are applicable, present a subject-matter and a discipline suited to the purposes of a liberal education, and that an education so derived differs materially in character and value from one whose substance is mainly literary. This College is distinguished in general from the technical colleges of the University by the fact that its choice of subjects is not limited by practical ends, and from the College of Literature and Arts by the predominance, in its courses and requirements, of the strictly scientific subjects. It is articulated with the latter, however, by the liberal elections from the literary courses permitted to students who have satisfied its demands as to scientific work, and by the special courses in science open to election by students from the companion College.

ORGANIZATION OF SUBJECTS

The offerings of this College include three groups of subjects: prescribed, major electives, and general electives. The prescribed subjects are required of all students unconditionally; the major electives are to be chosen from a considerable list of courses in the subjects most characteristic of the work of the College; and the general electives are taken, subject to the approval of the Dean, from any courses offered by the University.

The subjects offered are further combined in various courses, making somewhat different graduation require-

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ments. In the general science course the elections are least restricted. Its specific requirements amount to 46 hours for men and to 41 hours for women; the electives chosen from the list of majors amount to 40 hours' credit; and the remaining studies necessary to complete the total graduation requirement of 130 hours are elected* by the student at will, subject only to the approval of the College Dean.

Special courses are provided for in chemistry, in education, in household science, in mathematics, in physics, and in the studies preliminary to medicine.

CLASSIFICATION OF SUBJECTS

General Prescribed List

Chemistry 1, 3b, 4; 10 hours; or 1, 2, 3a, 5a, 9, 9a or 9c; 23 hours.

German 1, 3, 5 or 6; 16 hours.†

Mathematics 3 or 4; 2 or 3 hours.

Military Science 1, 2; 5 hours.

Physical Training—

Men, 1, 3; 2 hours.

Women, 7, 9; 3 hours.

Rhetoric 2; 6 hours.

Major Electives

Astronomy 3, 5 to 14.

Botany 1 to 5, 7, 9, 10.

Chemistry‡ 2, 2a, 3, 5 to 15, 17 to 19, 21, 23 to 30.

Entomology 2, 3, 5, 6.

Geology 1, 2, 4 to 9.

Household Science 1 to 5.

Mathematics 1 or 2, 3 or 4, 6, 8a, 8b, 10 to 26.

Physics 1, 2a, 3 to 10.

Physiology 1 to 3, 5.

Psychology 1 to 8.

Zoology§ 1 to 4, 8, 9, 12.

* The attention of students is called to the one hour course in General Reference (Lib. Science 12).

† If less than two years' entrance credit in a foreign language is offered, a year of French or advanced German will be required.

‡ Courses in Chemistry, and Mathematics taken to meet the requirement of the prescribed list may not be counted as major electives.

§ Zoology 10 may be credited as a major elective if followed by five hours of major work in zoology or entomology.

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The following subjects are open, as majors, to students in chemical courses only:

Civil Engineering 10.
Electrical Engineering 1.
General Engineering Drawing 1a, 1b, 1c.
Mechanical Engineering 1, 13, 16, 17.
Theoretical and Applied Mechanics 1, 2a, 2b, 3.

DEGREES

The usual degree given for work in this College is that of bachelor of arts, but the degree of bachelor of science may be given on recommendation of the head of the department in which the principal major work has been done, and approval of the Faculty of the College.

GENERAL COURSE IN SCIENCE

A student may graduate from a General Course in Science by taking the subjects of the general prescribed list; 40 hours of work from the major electives (which must include 30 hours in one subject or 40 hours in more than one) and additional studies, chosen, with the approval of the Dean of the College, from any courses offered by the University, and sufficient to complete the general graduation requirement of 130 hours' credit; *provided* that no student shall be graduated from this course with less than 5 hours' credit in physics or geology (1 or 3), and 5 hours in botany or zoology.

A thesis course may be taken in any department (subject to the approval of the head thereof) in which the student has done 20 hours of major work preceding his senior year. Students desiring to take a thesis course in geology or mineralogy may add to their credits in those subjects those received for chemistry also; and students in physiology may add to their credits in that subject those in zoology and bacteriology. Only students graduating with a thesis will,

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as a rule, be selected for fellowships, scholarships, and other similar university honors.

PROSPECTUS OF COURSES OF INSTRUCTION

In the following list the prescribed subjects, and the major electives in general science available for freshmen, are given in full for the freshman year, the required subjects in italics. For the remaining years only the prescribed subjects are given. *In making up the study list for any semester students should take the subjects italicised, and select from the remainder enough to make the requisite amount of work.*

First Year

1. *Art and Design* 1 or 1b; *Chemistry* 1; *Mathematics* 3 or 4 (*Trigonometry*); *Military* 2; *Physical Training* 1, 3, or 7, 9; Mathematics 1 or 2 (Advanced Algebra); Botany 2, 11; Zoology 10, 2; Household Science 2.

2. *Chemistry* 2, 3a, or 3b and 4; *Military* 1, 2; Mathematics 6; Physics 2; Art and Design 2; Botany 1, 5; Entomology 1; Zoology 1; Household Science 1, 3.

Second Year

1. *German* 1 or 4; *Military* 2.
2. *German* 3 or 6; *Military* 2.

Third Year

1. *German* 4; *Rhetoric* 2.
2. *German* 5 or 6; *Rhetoric* 2.

CHEMISTRY

To graduate in chemistry the candidate must take, in addition to the subjects of the general prescribed list as printed on p. 102 (including the second alternative in chemistry), the following studies especially prescribed for this course:

Mathematics 1 or 2; 2 or 3 hours.

Chemistry 2a, 7, 9b, 11, 14, 19, 29; 20 hours.

He must further take 28 hours' work (13 of which must be in chemistry) from the general list of major electives

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(p. 102), subject to the approval of the head of the department, and additional studies, subject to the approval of the College Dean, sufficient to amount to 130 hours' credit in all. He must also file a thesis acceptable to the head of his department.

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. General Elementary Chemistry (Chem. 1); German 1 or 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.

2. Descriptive Inorganic Chemistry (Chem. 2); German 3 or 6; Inorganic Preparations (Chem. 2a); Qualitative Analysis (Chem. 3a); Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. German 4; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Military 2.

2. German 5 or 6; Organic Chemistry (Chem. 9 and 9a); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Gas Analysis (Chem. 29); Organic Chemistry, special chapters (Chem. 9b and 14); Seminary (Chem. 19); Rhetoric 2.

2. Physical Chemistry (Chem. 7); Rhetoric 2; Seminary (Chem. 19).

Fourth Year

1. Seminary (Chem. 19).

2. Seminary (Chem. 19).

CHEMICAL ENGINEERING

The work of the technical chemist or superintendent is frequently so closely associated with mechanical and other engineering lines as to make a knowledge of these subjects essential. To meet these conditions, the following four years' course in chemistry and related engineering subjects has been arranged. Where options are allowed, the subjects chosen must be such that the total course shall contain the 130 hours' credit required for graduation.

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COURSE OF INSTRUCTION

For the Degree of B.S in Chemical Engineering

First Year

1. General Elementary Chemistry (Chem. 1); German 4; Mathematics 1, 3 or 2, 4; Military 2; Physical Training 1, 3 or 7, 9.

2. Descriptive Inorganic Chemistry (Chem. 2); German 5 or 6; Mathematics 6; Qualitative Analysis (Chem. 3a); Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Mathematics 8a; Physics 1, 3; Quantitative Analysis (Chem. 5a); Rhetoric 2; Military 2.

2. Industrial Chemistry (Chem. 17); Iron and Steel Analysis (Chem. 8); Organic Chemistry (Chem. 9); Physics 1, 3; Rhetoric 2; Military 2.

Third Year

1. Analytical Mechanics and Resistance of Materials (Theo. and Appl'd Mech. 1, 2a); Drawing (Gen. Eng'g 1a, 1b, 1c); Organic Chemistry (Chem. 14); Shop Practice (Mech. Eng'g 1).

2. Electrical Engineering (Elect. Eng'g 1); Physics 5c or 5d, or Elective; Physical Chemistry (Chem. 7a); Resistance of Materials and Hydraulics (Theo. and Appl'd Mech. 2b, 3); Shop Practice (Mech. Eng'g 1); Seminary (Chem. 19).

Fourth Year

1. Chemical Technology (Chem. 6a); Metallurgical Analysis (Chem. 15a, b); Geology 10; Sanitary and Technical Water Analysis (Chem. 10); Steam Engines (Mech. Eng'g 16); Seminary (Chem. 19); Thesis (Chem. 11).

2. Civil Engineering 10, or Elective; Gas Analysis and Calorimetry of Fuels (Chem. 18a); Metallurgy (Chem. 6b); Mechanical Engineering 13; Steam Boilers (Mech. Eng'g 17); Thesis (Chem. 11).

EDUCATION

To graduate with a preparation for the teaching of science in the secondary schools, the student must meet the requirements of the general science course, as described on pp. 103-4, choosing his major electives in those subjects which he wishes especially to teach, and adding to the pre-

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scribed list in general science, education 1, 3 and 7, psychology 1, philosophy 1, and at least four hours more in education or psychology. If he wishes to graduate with a thesis he may count the credits of his major line of science work, with those in education, to make the twenty hours necessary at the beginning of the senior year.

His general electives will be taken subject to the approval of the Dean of the College.

ELECTION OF MAJOR COURSES

As a preparation for the teaching of specialties in secondary schools, students are advised to make elections of major work as follows:

Astronomy 3 or 4, 5, 6; 8 or 10 hours.

Botany 11, 1, 2; 15 hours.

Chemistry 1, 3a, 5a, 7, 9; 21 hours.

Geology 5, 1, 2; 15 hours.

Mathematics 1, 3, 6, 8a; 15 hours.

Physics 1, 3, and 15 hours work from the following courses: 5a, 5b, 5c, 5d, and 6a, 6b, 6c, 6d; 20 hours.

Physiography (Geol. 8); 5 hours.

Zoology 10, 1, 2, 9; 20 hours. Entomology 3 may be profitably added to the above.

HOUSEHOLD SCIENCE

It is the purpose of this course to give women a liberal education with a basis of pure and applied science, and to provide for those specializing in science an opportunity for the correlation of their work with special applications of science to the home. To graduate in household science a student must take the studies of the general prescribed list (p. 102), including the first alternative in chemistry, and in addition the following studies especially prescribed for this course:

Art and Design 1b, 16, 19; 5 hours.

Botany 1, 5; 10 hours.

Chemistry 5a or 20, 5c; 5 to 10 hours.

Economics 1 and 16 or 17; 6 hours.

Household Science 1 to 9; 21 hours.

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Physics 2; 4 hours (1st semester).
Physiology 4; 5 hours.
Zoology 10; 5 hours.

Additional subjects sufficient to make the total of 130 hours' work required for graduation may be taken, subject to the approval of the Dean of the College, from any courses offered by the University.

PROSPECTUS OF THE REQUIRED COURSES

First Year

1. Art and Design 1b; Chemistry 1; Mathematics 4; Rhetoric 2; Zoology 10.

2. Household Science 1; Chemistry 3b and 4; Botany 1; Rhetoric 2.

Second Year

1. Chemistry 5a or 20; German 1; Household Science 6, 7; Art and Design 16, 19.

2. Chemistry 5c; German 3; Botany 5; Art and Design 16, 19; Household Science 5.

Third Year

1. Economics 1; German 4; Household Science 2, 4; Physics 2a.

2. German 5 or 6; Household Science 3, 8; Economics 16 or 17.

Fourth Year

Household Science 9.
See elective list and requirements for graduation.

MATHEMATICS

To graduate in mathematics, the candidate must take the subjects of the prescribed list on p. 102 (including the first alternative in chemistry)*, and also mathematics 2, 6, 8a, 8b, 10, 11, 16, 17. He must, further, take 20 hours' work from the list of major electives printed on p. 102, which shall include the preparation of an acceptable mathematical thesis (mathematics 15), and ten hours in some line of applied mathematics. The remaining work necessary to

* Physics 1, 3, may be substituted for this requirement in chemistry.

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complete the 130 hours required for graduation may be selected from any university offerings subject to the approval of the College Dean.

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. Mathematics 1 or 2, and 3 or 4; German 1 or 4; Chemistry 1; Military 2; Physical Training 1, 3 or 7, 9.
2. Mathematics 6; Chemistry 3a or 3b, 4; German 3 or 5 or 6; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Mathematics 8a; German 4; Rhetoric 2; Military 2.
2. Mathematics 10, 11; German 5 or 6; Rhetoric 2; Military 2.

Third Year

1. Mathematics 8b, 16; Applied Mathematics.
2. Mathematics 8b, 17; Applied Mathematics.

Fourth Year

1. Mathematics 15.
2. Mathematics 15.

PHYSICS

To graduate from a special course in physics a student must take the studies of the general prescribed list (p. 102), including the first alternative in chemistry, together with the following studies especially prescribed for this course.

Mathematics 1 or 2, 6, 8a (or 7 and 9); 12 to 19 hours.

Physics 1 and 3, or 2, 5a, 6a, 10; 21 to 24 hours.

He must further choose from the major elective list (p. 102) physics courses sufficient to bring the total of his credits in physics up to 30 hours, together with additional subjects taken from any university offerings, but subject to the approval of the College Dean, sufficient to complete the graduation requirement of 130 hours. He must also file a thesis approved by the head of his department in the line of his major work.

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PROSPECTUS OF REQUIRED COURSES

First Year

1. Advanced Algebra and Trigonometry (Math. 2, 4); German 1 or 4; Chemistry 1; Rhetoric 2; Military 2; Physical Training 1, 3 or 7, 9.

2. Analytical Geometry (Math. 6); German 3 or 5 or 6; Chemistry 3b, 4; Rhetoric 2; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. Physics 1 or 2, 3; Differential Calculus (Math. 7 or 8a); Rhetoric 2; German 4; Military 2.

2. Physics 1 or 2, 3; Integral Calculus (Math. 9); Rhetoric 2; German 5 or 6; Military 2.

Third and Fourth Years

Physics 5a, 6a, and 10.

COURSE PRELIMINARY TO MEDICINE

To graduate in a general science course, arranged with special reference to medical study following, the student must take the subjects on the general prescribed list, page 102 (including the second alternative in chemistry), and the following list of studies especially prescribed for this course:

Art and Design 1.
Chemistry 9c; 2 hours.
Botany 5; 5 hours.
Latin.*
Physics 2a; 8 hours.
Physiology 1,† or 1 and 2.‡
Psychology 2; 5 hours.
Zoology 10, 2, 3; 15 hours.

Additional studies sufficient to make up the full requirement of 130 hours may be chosen from any university courses subject to the approval of the Dean of the College.

* Those who offer Latin for entrance must take German in this course; those who offer German for entrance should take its equivalent in Latin before going on with German in the University.
† Sufficient if three-year course is taken.
‡ Recommended if full four-year course is taken.

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The prescribed studies should be taken according to the following prospectus:

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. Art and Design 1b; Elementary Chemistry (Chem. 1); Rhetoric and Themes (Rhet. 2); Military 2; Physical Training: for Men 1, 3; for Women 7, 9; Trigonometry (Math. 4); Zoology 10.

2. Descriptive Inorganic Chemistry (Chem. 2); Qualitative Analysis (Chem. 3a); Physics 2; Rhetoric and Themes (Rhet. 2); Military 1, 2; Physical Training: for Men 1, 3; for Women 7; Zoology 2.

Second Year

1. German 1 or 4, or Latin; Zoology 3; Quantitative Analysis (Chem. 5a); Military 2; Physics 2a.

2. German 3, or 5 or 6 or Latin; Zoology 3; Organic Chemistry (Chem. 9, 9c); Military 2; Physics 2a.

Third Year

1. German 4; Psychology 3; Physiology 1.

2. German 5 or 6; Physiology 1; Bacteriology (Bot. 5); Electives.

Fourth Year

All Electives.

To those who take this full four years' course the degree of bachelor of arts is given. If the first three years of the above course are taken and followed by a three years' course at the Medical College, both the medical and the liberal degrees will be given on the completion of this six years' work. Students passing to the Medical College at the end of the above three years' university work will receive advanced credit there for the following subjects:

Chemistry (general, organic, qualitative and quantitative analysis, and Toxicology), Biology (Zoology), Physiology, Normal Histology, Embryology, and Bacteriology.

LIBRARY SCIENCE.*

To graduate with the degree of bachelor of arts in library science the candidate must take the subjects of the

* See p. 134.

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prescribed list on page 102 (including the first alternative in chemistry), and also library science 1, 2, 3, 4, 7, 14. He must further take 40 hours' work from the list of major electives, and additional studies necessary to complete the 130 hours required for graduation, which may be selected from any University offerings subject to the approval of the College Dean.

PROSPECTUS OF PRESCRIBED COURSES

First Year

1. Art and Design 1b; Chemistry 1; Mathematics 3 or 4; Military 2; Physical Training 1, 3 or 7, 9.
2. Chemistry 3b, 4; Military 1, 2; Physical Training 1, 3 or 7.

Second Year

1. German 1; Military 2.
2. German 3; Military 2.

Third Year

1. German 4; Rhetoric 2.
2. German 5 or 6; Rhetoric 2.

Fourth Year

1. Library 1, 2, 3, 4, 7, 14.
2. Library 1, 2, 3, 4, 14.

DESCRIPTION OF DEPARTMENTS

ART AND DESIGN

The general character of the work of this department is described on page 82.

ASTRONOMY

The instruction given in astronomy is planned to meet the needs of four classes of students: (a) those who desire a general acquaintance with the subject; (b) engineers whose work necessitates a practical knowledge of some parts of it; (c) those students of the College of Science who wish to specialize in the geological and biological sci-

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ences, and require a more intimate acquaintance with astronomy than can be got in one term's work; (d) those students who wish to make astronomy their specialty.

The equipment of the department consists of a students' Astronomical Observatory, a 12-inch equatorial telescope and various accessories, two 4-inch equatorials, a combined transit and zenith telescope, and a number of smaller instruments. A master clock for the electrical control of the various secondary clocks on the University campus is mounted in the clock room of the Observatory.

BOTANY

Fifteen courses of instruction are offered in this subject. The courses numbered 1 and 2, each of one semester, are intended to serve the double purpose of an introduction to the work which follows for students making botany a specialty, and to afford an opportunity to gain the general facts of the science and to acquaint themselves with the methods of instruction. To a very large extent natural objects are studied rather than books, but constant endeavor is made to introduce students to pertinent existing literature.

The botanical laboratories are: One of large size with full equipment of microscopes, microtomes, aquaria, models, charts, etc., for general work; one specially arranged for instruction and research in vegetable physiology, having attached a glazed structure, two stories in height, adapted to facilitate experiments upon living plants and to grow specimens required in the laboratories; one fitted up for bacteriological instruction and investigation (in agricultural building) supplied with the necessary apparatus and materials; and several smaller apartments for special purposes.

The department is provided also with a room for the herbarium, and facilities for work in connection therewith; workrooms for the preparation of specimens; storage-rooms for apparatus, utensils, reagents, and materials; dark room for photography, and rooms for offices.

Special attention has been given to parasitic fungi; and

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the collection of specimens and of literature upon the subject is ample for various lines of original investigation.

CHEMISTRY

The chemical offerings include courses of instruction in general elementary, inorganic, organic, physical, and theoretical chemistry, and several lines of qualitative and quantitative analysis. (See *Chemistry* in DESCRIPTION OF COURSES, p. 185.

The first year is devoted to the consideration of general descriptive inorganic chemistry and qualitative analysis, the first half of the second year is occupied with courses in quantitative analysis, both gravimetric and volumetric, and the second half year is given to general organic chemistry. The work of these two years and that of the first half of the third year, which is devoted to more advanced organic chemistry, is prescribed for all students of the chemical courses.

Aside from this prescribed work there are offered numerous electives in chemistry, which, by judicious selection, afford opportunity for specialization along any of the lines of analytical, pharmaceutical, technological, or pure chemistry.

APPLIED CHEMISTRY

In this department there are offered ten separate courses in technological subjects. These require as preliminary work the seven general and analytical courses. They may be further supplemented by special advanced work along some chosen line. Frequent visits are made to metallurgical and other works employing chemical processes.

EDUCATION

For a description of this department, see p. 83.

ENTOMOLOGY

This department utilizes for purposes of instruction the entomological collections, library, and equipment belonging

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to the University or made immediately available to students by the State Laboratory of Natural History and the office of the State Entomologist, both permanently established here. The entomological work of the Natural History Survey, now prosecuted continuously, and the scientific and economic studies of the State Entomologist and his assistants, give entomological students extraordinary privileges of experience in the laboratory, the office, and the field, in both scientific and economic work.

The instructional equipment of this department consists of a special laboratory for students, with an ample general apparatus for field work, and two special collections, one for reference by students engaged in the determination of species, and the "Bolter collection" of 120,000 specimens—maintained separately by the University and open to advanced students under suitable restrictions. The department also owns numerous *papier-maché* models, a collection of wall charts, and many microscopic slides especially prepared for students' use.

FRENCH

The first year's work in French is so arranged as to prepare scientific students to read the literature of their major subjects. See also Romanic Languages on page 85.

GEOLOGY

In this department six courses are offered in geology, three in mineralogy, one in paleontology, one in physiography, and one in meteorology.

The laboratories are supplied with all the apparatus and tools necessary to carry forward the courses offered, and the lecture room is fully equipped with maps, charts, models, and other illustrative material.

The collection of fossils comes principally from the paleozoic, but includes a representative series from the higher groups. It contains 49,000 specimens (seven hundred and

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forty-two of the types described in the reports of the Illinois geological surveys are included) and 200 thin sections of corals and bryozoa.

The collection of minerals contains 12,000 specimens, and that of rocks 9,000 specimens, among which is a large number of polished granites, marbles, and other ornamental building stones, 1,000 thin sections of rocks and minerals, and 575 crystal models.

There is also a collection of Illinois soils containing 104 specimens; and a large collection of Illinois clays with their manufactured products.

GERMAN

The German required in the College of Science is intended to prepare the student to read the literature of his major study. See also page 83.

HOUSEHOLD SCIENCE

For a description of this department see page 123.

LIBRARY SCIENCE

See Library School, p. 134.

MATHEMATICS

All senior and graduate students who make mathematics their major are required to take in connection with their thesis a year's work (two-hour study) in the mathematical seminary, where the results of their investigation are presented and discussed. To the seniors and graduate students two lines of work in pure mathematics are offered and each is given in alternate years.

Courses 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25, and 26 may count either as graduate or undergraduate work.

The department is supplied with eighty-five of Brill's mathematical models. The collection includes an excellent

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set of plaster models illustrating the properties of surfaces of the second order, a set of string models for ruled surfaces, a set of paper models illustrating the real circular sections of certain conicoids, a complete set of Brill's models for the theory of functions, and a collection of surfaces of third order.

MILITARY SCIENCE

See pages 257, 294.

PHYSICAL TRAINING

See page 296.

PHYSICS

The department offers a lecture course in general descriptive physics with class-room experiments, extending through the year, and accompanied by an introductory laboratory course in physical measurements. This is followed by two courses, one experimental and the other theoretical. In the experimental course the student is trained in the most exact methods of making the fundamental physical measurements and taught how to discuss his results. The theoretical course running parallel to this discusses, with the aid of elementary calculus, the theory of some of the main subjects of physics. In the senior year the student is supposed to take up some special problem for investigation and to center his laboratory work about that. An advanced mathematical course is also offered for those who wish to follow the most advanced theories and results of the science.

PHYSIOLOGY

The special objects of the courses in physiology are as follows: (1) To give prospective students of medicine a detailed practical knowledge of the normal histological structure and vital processes of the body, and a working familiarity with the instruments of precision used in the

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investigation of disease. (2) To give students of all branches of biology a training in deducing logically necessary conclusions from data obtained by their own observations. (3) To furnish such a knowledge of physiology as will serve as a basis for future studies in hygiene.

The department of physiology occupies five rooms in Natural History Hall; a general laboratory, a lecture room, a private laboratory, and an advanced laboratory on the top floor, and an animal room in the attic. The general laboratory, 35 by 56 feet, is fitted at one end with desks for chemical and similar work, and at the other end with tables for use with the microscope and other apparatus requiring a stable support.

PSYCHOLOGY

The laboratory is well equipped with materials and apparatus for a large number of classical experiments upon sensation, which the student is required to conduct himself, and of which a careful record is kept. The higher mental functions are then studied experimentally, and the experimenter held responsible for the purity of the experimental conditions and the method of procedure.

A full line of periodical literature is made accessible by the University, and this serves as a basis of reports in the seminary.

For original research the laboratory is well equipped with suitable apparatus and every incentive is given toward a high grade of work.

ZOOLOGY

Students ordinarily begin their work in zoology with course 10 (elementary zoology), of which only a part, taken as a fractional course, will be required of those who have an entrance credit in zoology or biology. The courses are so organized as to lead through zoology 10, 1, and 2 to the course especially designed for teachers (zoology 9), or to

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advanced zoological work; through zoology 10 and 1 (invertebrate zoology) to general entomology; through zoology 10 and 2 (vertebrate zoology) to embryology and physiology and the University preparation for medical study.

The equipment of the zoological department is contained in three students' laboratories, an instructor's laboratory, a lecture room, a private office, a store room, and a dark room for photography. Advanced and graduate students have the use of the library and equipment of the State Laboratory of Natural History, which occupies rooms in Natural History Hall.

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COLLEGE OF AGRICULTURE

AIMS AND SCOPE

The College of Agriculture offers an education designed to fit for the business of farming, and at the same time to furnish a means of culture. This education is, therefore, partly technical and partly cultural. Its end is the training of students to be not only successful farmers, but good citizens and successful men as well.

Of the courses leading to graduation in the College of Agriculture, the technical portion constitutes about one-half of the entire work of the student. Of the remaining portion of the course, thirty-five hours are prescribed in the sciences nearest related to agriculture.

The College also offers, through the department of Household Science, a variety of courses, especially treating of the affairs of the home.

METHODS OF INSTRUCTION

Of the twenty instructors in technical subjects, sixteen devote their entire time to agriculture. The student is brought into close practical contact with his subject. He takes levels, lays tile, tests the draft of tools, traces root systems of corn and other crops, tests germination of seeds, determines the fertility in soils and the effects of different crops and of different rotations upon soil fertility. He does budding, grafting, trimming, and spraying, and works out problems in landscape gardening. He tests milk, operates separators, makes and judges butter and cheese. He studies cuts of meat and samples of wool, judges a great variety of

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animals, and has practice in diagnosing and treating their diseases.

EQUIPMENT

The College keeps on deposit from the largest manufacturers several thousand dollars' worth of plows, cultivators, planters, cutters, shellers, grinders, mowers, binders, engines, etc. It has extensive collections of agricultural plants and seeds and their products. Laboratories are well equipped with apparatus and appliances for the study of manures, fertilizers, fertility of soils, soil physics, soil bacteriology, germination of seeds, corn judging, etc. The grounds of the University and the fields and orchards of the Experiment Station are always available for illustration in class work. An illustrative series of colored casts of fruit and enlarged models of fruits and flowers, collections of seeds and woods, cabinets of beneficial and noxious insects, with specimens of their work, photographs, maps, charts, drawings, lantern slides,—all afford valuable material for study and illustration.

Specimens of Morgan horses; Shorthorn, Jersey, Ayrshire, and Holstein-Friesian cattle; Shropshire, Merino, and Dorset sheep, and Berkshire swine afford material for judging. This material, moreover, is largely increased by loans from prominent herds. In the dairy department is a complete outfit for a milk-testing laboratory, and for cream separation and butter and cheese making. The department of veterinary science owns a collection illustrating materia medica, a collection of pathological specimens illustrating special abnormal bony development, and a *papier-maché* model of a horse, capable of dissection, and showing every important detail of structure. In addition are levels, lanterns, microscopes, and cameras, an extensive list of agricultural journals, a complete file of experiment station bulletins from all the states, and an excellent assortment of standard reference books, including nearly all the pedigree registers published.

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DESCRIPTION OF DEPARTMENTS

AGRONOMY

The department of agronomy, with a staff of six, gives instruction in those subjects which relate especially to the field and its affairs, as drainage, farm machinery, field crops, the physics and bacteriology of the soil, manures, rotation and fertility, the history of agriculture, farm management, and comparative agriculture. The object is to acquaint the student with the facts and principles connected with the improvement of soils, the preservation of fertility, the nature of the various crops and the conditions governing their successful and economic production, and with the development of agriculture.

ANIMAL HUSBANDRY

In this department three instructors give courses covering the separate study of sheep, swine, beef and dairy cattle, and their products; heavy and light horses, with their care and training; the management of farm herds, and the principles and practices of feeding and of breeding. The purpose is to familiarize the student with animals, first as to their fitness for specific purposes; second, as to their care and management; third, as to their improvement by breeding; and fourth, as to the commercial production of animal products.

DAIRY HUSBANDRY

Three instructors give extended courses in the study of milk and its economic production; the characteristics of the dairy cow and the management of dairy farms; the separation of cream, and the making of butter and cheese; factory management; dairy bacteriology; city milk supply and the standardizing and pasteurizing of milk and cream.

HORTICULTURE

Five instructors conduct courses in orchard management, small fruit culture and vegetable gardening, nut culture, floriculture, landscape gardening, and forestry; in fruit propagation, greenhouse management, and the evolu-

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tion of cultivated plants; and in commercial horticulture and nursery management. The purpose is to acquaint the student with the principles and practice of fruit raising and vegetable gardening, both for home and market, and with successful methods of combating insect and fungus enemies.

HOUSEHOLD SCIENCE

The department of household science stands for a recognition of the importance of adequate and proper training for home duties.

The courses of instruction given in the department are planned to meet the needs of two classes of students, viz.: (a) those students who specialize in other lines of work, but desire a knowledge of the general principles and facts of household science; (b) those students who wish to make a specialty of household science by a comprehensive study of the affairs of the home, together with the arts and sciences whose applications are directly connected with the management and care of the home.

The department occupies the entire second floor of the north wing of the agricultural building, and is supplied with laboratories, apparatus, and illustrative material, such as charts, specimens of various kinds of building material, and exhibits illustrating the chemical composition and products obtained in the manufacture of certain foods.

THREMMATOLOGY

The improvement of domesticated animals and plants and the principles on which it rests are made the special subject of one instructor, who conducts a half-year course of study supplemented by extensive reference readings.

VETERINARY SCIENCE

Courses are offered in veterinary anatomy and physiology, in veterinary materia medica, and in the theory and practice of veterinary medicine and surgery. The object is to acquaint the student with the structure and activities of animals in health, the characteristic symptoms of disease,

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and the materials and methods of successful treatment. He therefore makes careful study of the structure of domestic animals and of the nature of their derangements and the characteristic action of remedial agents. The weekly clinic gives opportunity for practical experience in the diagnosis and treatment of the more ordinary diseases.

COURSES OFFERED

The College of Agriculture offers the following courses, leading to the degree of Bachelor of Science:

1. Agricultural Course.
2. General Course.

AGRICULTURAL COURSE

This course is designed to fit young men for the business and relations of country life. Students may graduate upon completing the studies of the prescribed list, etc., etc.

CLASSIFICATION OF SUBJECTS

PRESCRIBED*

Agronomy 2, 6, 9, 12; 15 hours.
†Animal Husbandry 7; 2½ hours.
Botany 1 or 11; 5 hours.
‡Chemistry 1, 3b, 4, 13; 15 hours.
†Dairy Husbandry 10; 2½ hours.
Economics 2; 2 hours.
Geology 12; 5 hours.
Horticulture 1, 10; 8 hours.
Military 1, 2; 5 hours.
Physical Training 1, 3 or 7, 9; 2½ or 3 hours.
Rhetoric 2; 6 hours.
Thremmatology 1; 5 hours.
Zoology 10; 5 hours.

* Students not offering six credits in foreign language for admission will take two years of foreign language in the University as a condition of graduation.

See also note referring to students specializing in household science given under "Requirements for Graduation."

† See Thremmatology and elective List A.

‡ Chemistry 3 may be taken in lieu of Chemistry 3b and 4.

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ELECTIVE

List A

Animal Husbandry 1, 2, 4, 5, 11, 12, 17, 18, 19; 19 hours.
Dairy Husbandry 2; 2½ hours.

List B

Botany 2; 5 hours.
Zoology 2; 5 hours.

List C

English 1, 16; 3 to 8 hours.
Rhetoric 3; 4 to 8 hours.

List D

Agronomy 1; 3 to 5; 7, 8, 10, 11, 13 to 18; 1 to 60½ hours.
Animal Husbandry 1 to 6, 9; 2 to 28 hours.
Botany 7; 3 hours.
Dairy Husbandry 1 to 9, 11, 12; 2½ to 40 hours.
Horticulture 2 to 9, 11 to 19; 2 to 72 hours.
Veterinary Science 1 to 4; 2 to 25 hours.

REQUIREMENTS FOR GRADUATION

Students will be graduated from the courses in Agriculture with the degree of bachelor of science upon completing the following work:

1. The studies of the prescribed list.

2. Sufficient electives to make a final total of 130 semester hours, of which not less than four and one-half shall be chosen from elective list A, not less than five from elective list B, not less than three from elective list C, not less than twenty from elective list D, and the remainder from any subjects offered in the University, which the student is prepared to take.

3. An acceptable thesis upon an approved course of investigation, for which from five to ten semester hours will be allowed, according to the nature of the subject. Credit for this will be included in the amount to be earned by elective work.

Students specializing in household science may substitute courses in that department in place of courses pre-

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scribed in agronomy, animal husbandry, dairy husbandry, and horticulture, and may elect sufficient additional subjects for graduation from any subjects taught in the University, subject to the approval of the Dean of this College.

COURSE OF INSTRUCTION

Required for the degree of B.S. in Agriculture

The following outline shows the most favorable time and order in which the prescribed studies of the course can be taken, and, though it is not insisted that the scheme be followed, it is strongly recommended.

First Year

1. Chemistry 1 (3, 4; Tu., Th., S.; 5; M., W., F.); Military 2; Physical Training 1, 3 or 7, 9; Rhetoric 2 (3; M., W., F.); Zoölogy 10 (1, 2); Elective in Agriculture.

2. Agronomy 2, 6 (1, 2); Chemistry 3b (3, 4); 4 (3, 4); Military 1, 2; Physical Training 1 or 7; Rhetoric 2 (8; M., W., F.); Botany 1 (6, 7).

Second Year

1. Chemistry 13 (3, 4); Horticulture 1 (6, 7); Military 2; Rhetoric or English; Elective in Agriculture.

2. Geology 12 (3, 4); Military 2; Rhetoric or English; Elective in Agriculture.

Third Year

1. Agronomy 9 (1, 2); Dairy Husbandry 10 (3; M., W., F.); Botany 2 (6, 7), or Zoölogy 2 (Lec., 4; Tu., Th., arrange Lab.) if elected; Economics 2 (4; M., W.); Electives.

2. Agronomy 12 (1, 2); Horticulture 10 (4; M., W., F.); Electives.

Fourth Year

1. Animal Husbandry 7, first half (3); Thremmatology 1 (4); Electives.

2. Electives, including Thesis.

SHORT COURSES

In addition to students who are candidates for a degree the College receives as special students, for a longer or shorter period, any persons who are qualified to pursue with profit subjects they desire. Classes are conducted in over eighty different subjects, all of which

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are open to election by both regular and special students under such restriction as shall insure sufficient preparation for the particular subject. Students may enter at any time, but it is greatly preferred that they enter at the beginning of classes; viz., at the opening of the year in September, at the beginning of the second semester about February first, or at the middle of either semester, at which time half semester subjects begin.

The person who remains but a short time will therefore follow but a few lines of work. If his presentation is deficient he will be confined to those subjects that require little or no previous preparation. He will also be confined to an amount which he can do thoroughly well, and will thus perform substantially the same grade of work as regular students. As the course is largely elective, credit is given for what is actually achieved. Thus the distinction between regular and special students is mainly in the subjects open to their election.

GENERAL COURSE IN HOUSEHOLD SCIENCE.

This course is designed to provide an education in those branches of learning that especially serve the interests of women. It has in view particularly those young women who wish to specialize in household science. This, therefore, is to be regarded as the core of the work of the course. That subject is treated as one of a strictly scientific character, and the training in it, while not losing sight of the practical aspects, is therefore severely scientific. In connection with the work in household science, and as a necessary preparation to it, the student must take several courses in pure science.

Although the main work is, therefore, scientific and technical, the importance of an artistic and literary training for home life is not lost sight of, and ample opportunity is given for a study of subjects of that character. Indeed, so important are they deemed that a considerable amount of art and design, English, history, and foreign language is re-

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quired of students in the course. Opportunity is given, moreover, for increasing the amount of liberal, scientific or technical subjects by leaving the way open for a certain number of electives. Of the one hundred and thirty hours required for graduation, ninety-four are provided for in the prescribed list and the restricted electives of List A. The other hours of credit necessary for graduation may be taken, subject to the approval of the Dean of the College, from any courses offered in the University. It is desirable, however, that students should not scatter their work too much, and they are advised, therefore, to choose, to a certain extent at least, electives which are in close correlation with the subjects in the list prescribed, or of restricted elective work. Holders of scholarships in household science are expected to take the course as laid out here. Variations from it can be made only by special permission of the Council of Administration on recommendation of the faculty of the College.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Art and Design 1, 16, 19; 8 hours.
Botany 11; 5 hours.
Chemistry 1, 3b, 4; 10 hours.
English 1, 2; 10 hours.
History 1; 6 hours.
Household Science 1, 2, 3, 6; 10 hours.
Library 12; 1 hour.
Physiology 4; 5 hours.
Physical Training 7, 9; 3 hours.
Rhetoric 2; 6 hours.

In addition to the above, students will elect as follows:

Botany or Zoölogy, 5 hours.
English or Rhetoric, 5 hours.
Foreign Language, 20 hours.
*Elective List A., a minimum of 4 hours.

* If Physics has not been offered for entrance, its equivalent should be elected.

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ELECTIVE

List A

Architecture 6; 4 hours.
Horticulture 10; 3 hours.
Household Science 5, 7; 4 hours.
Economics 1 and 16 or 17; 6 hours.
Physics 2; 4 hours.

COURSE OF INSTRUCTION

Required for the Degree of B.S. in General Course

First Year

1. Botany 11; Chemistry 1; Household Science 2; Rhetoric 2; Physical Training 7, 9.
2. Chemistry 3b, 4; Household Science 1; Rhetoric 2; Art and Design 1; Physical Training 7, 9.

Second Year

1. English 1; Art and Design 16; Foreign Language; Household Science 6.
2. Household Science 3; English 2; Foreign Language.

Third Year

1. Art and Design 19; History 1; Library 13.
2. Physiology 4; History 1.

Fourth Year

See elective list and requirements for graduation.

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GRADUATE SCHOOL

ORGANIZATION

The Council of Administration of the University is in charge of the Graduate School, and the executive officer, to whom communications should be addressed, is the Dean of the Graduate School.

ADMISSION AND REGISTRATION

Graduates of the University of Illinois, and of other colleges and universities of approved standing, may be admitted to membership in the Graduate School upon presentation of their credentials. Other persons suitably qualified may gain admission by special vote of the Council of Administration upon such conditions as may be imposed in each case. Candidates for admission may secure application blanks from the Dean or from the Registrar of the University, and these, properly filled out, should be filed, together with such documentary matter as may be presented, showing qualifications for membership in the school, with the former officer. This should be done not later than the time set for registration in September. Admission may be granted at other times, but the time limit required for degrees counts from the date of the certificate of membership.

With the exceptions named below, all members of the Graduate School are required to be in regular attendance at the University, and to do all the work for which they are registered in the departments to which such work belongs. In case of absence on leave, or when absence is necessary to carry on investigations included in approved

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courses of study, the requirement of continuous residence may be modified by the Council of Administration.

Graduates of this University may be admitted to non-resident membership in the Graduate School, as candidates for second, or masters', degrees; and all members of the School who have completed the residence required for advanced degrees may register as non-residents while completing the work required for such degrees.

Members of the Graduate School register with the Dean during the registration days, at the beginning of the collegiate year.

Those only are enrolled as members of the Graduate School who enter upon or pursue approved graduate work as explained under "Studies and Examinations" below. Resident graduates who are candidates for bachelor degrees are not included, neither are those who, not working for any degree, have registered without a major subject approved as graduate work.

STUDIES AND EXAMINATIONS

As far as can be indicated by a statement of time, full work for a graduate student consists in the use of forty-five hours a week in the lecture rooms, laboratories, etc., and in private study. Assignments of work are made upon this basis; but great variations naturally result from the subject-matter in hand, and from the abilities of individuals.

Each student must select one principal line of study, and upon this major subject at least one-half of his work must be done; and any greater proportion of his time, up to the whole of it, may thus be devoted if proper approval is had. When work upon the selected major subject is not arranged to require all of the student's attention, he must choose one or two minor subjects, as may be necessary to complete a full course of study. Usually, at least one minor subject should be taken. Not more than two may be taken at the same time.

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The major study must be approved as graduate work for this University; that is, it must be of true graduate grade, preceded by an amount of undergraduate preparation determined by the officers in charge. The minor subjects may, under approval, be chosen from the offerings to graduates; or, except in the College of Engineering, from undergraduate courses of advanced grade. But all candidates for advanced degrees must direct their selection toward some well-defined end, determined for the most part by the character and purpose of the major study.

In the College of Engineering the major line of study consists of some combination of the courses enumerated under the heading of "Courses for Graduates" given with each departmental subject; thus one candidate for an advanced degree may have assigned him as his major subject Architecture 101, 103, and 107; another, Mechanical Engineering 104 and 107; and the extent to which each of the enumerated subjects is to be pursued may be indicated in credit hours upon the application blanks. In architectural and engineering subjects, at least the major line of study, and not less than two-thirds of the entire work, must be taken from the lists marked "primary",* and any remaining amount to complete a full course may be taken from those designated "secondary," under the same general head with the primary list.

All courses of study leading to degrees in the Graduate School are subject to approval, first, by the head of the department of the University in which the major subject for each student belongs; second, by the Dean of the College including such department; and, third, by the Dean of the Graduate School. The signatures of the heads of departments in which chosen minor subjects belong must also be obtained before the list reaches the Dean of the Graduate School. The lists of studies, as finally approved, are deposited with the Registrar of the University. No changes

* See the courses for graduates in Architecture and other engineering courses in the "General Description of Courses," p. 164.

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may subsequently be made except under the same line of approvals, but extension of time may be arranged with the professors concerned and with the Dean of the Graduate School.

Examinations are required in all subjects, and reports upon these are made to the Registrar of the University. Graduate students in undergraduate classes are examined with these classes.

The head of the department in which the student does his major work is charged with the direction and supervision of such major work, and, in a general way, with the supervision of the student's entire course of study. He fixes the time and method of all examinations not otherwise provided for, sees that they are properly conducted, and reports results to the Registrar. It is his duty also to keep the Dean of the Graduate School informed concerning all matters affecting the interests of the student, and of the School in connection therewith.

DEGREES AND FELLOWSHIPS

A full statement regarding the degrees conferred by the University may be found on later pages of this catalog, and in the same connection on account of fellowships. (See pp. 280, 284.

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STATE LIBRARY SCHOOL*

AIMS AND SCOPE

It is the purpose of the Library School to offer instruction (1) to students who wish to specialize in library work as a profession, and (2) to students who wish to elect liberal library courses as part of a general education.

The school was established at Armour Institute of Technology, Chicago, in September, 1893, and was transferred to the University of Illinois in September, 1897. In its nearly ten years of existence it has advanced its entrance requirements from high school graduation to three years of university work and has extended its instruction from one year to two years. There is now offered a five years' course of study, leading to the degree of bachelor of library science. Three years of the course are devoted to general university studies and students are urged to complete a four years' college course before applying for admission.

The fourth year combines technical and liberal work and leads to the degree of bachelor of arts in library science. The fifth year is advanced and comparative technical work with the addition of bibliographical and historical subjects. The degree of bachelor of library science is conferred on the completion of the work through this fifth year. Electives are here introduced to allow for personal preference and fitness for different positions. The practical work of the course amounts to over three months of time, counting eight hours a day, and this is more valuable, because more

* A special circular describing the work of the Library School in detail may be obtained on application to the Registrar.

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varied, than if taken in three consecutive months in a library. Moreover, the library school student has the benefit of comparative study, while the apprentice becomes skilful in the ways of one library only.

Although elaborate methods are taught to enable students to work in large libraries where bibliographic exactness is required, stress is laid throughout the course on simplicity and economy of administration. Moreover, emphasis is constantly laid on the responsibility of the librarian to the schools and clubs and to the community at large.

It is the policy of the School that each instructor shall be engaged in active library work so that the instruction may be practical.

The general student, not a candidate for the degree of bachelor of arts in library science, may elect, in his senior year, any subject in the list of library electives for which he is prepared. Such subjects have been indicated as will help the student in general reading, in research work, in club work, or as a member of a library committee or board of trustees. For the general student who does not care to take the required fourth year of the Library School, nor to elect any regular library course, the School offers a course of fifteen lessons on the use of the library and the ordinary reference books. This course is open to students in all classes.

METHODS OF INSTRUCTION

There are so few text-books on library economy that instruction is given almost altogether by lecture and laboratory methods. References to books and periodicals are given for collateral reading, and individual research is encouraged. Lectures are illustrated by the collections of forms and fittings, and each student is expected to do a certain amount of practical work in the University library each day. Before completing the course, each student must have had actual experience in every department of the library. Class room work is tested by problems, and examinations take the form of problems wherever practicable.

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LOCAL LIBRARY COOPERATION

The Library of the University of Illinois and the Champaign Public Library have systematic plans for cooperation through the Library School, in the interests of the clubs and the schools. Each woman's club in Champaign and Urbana sends its program for the year to the Library School, where a reference list is made on each subject, specifying in which library the material is to be found. A copy of each list is posted in each library. The students also make lists for the various grades of the public schools. The branch of the Champaign Public Library is entirely in charge of Library School students. Students also spend a definite time in the children's room of the Champaign Public Library, where they develop their own ideas as to advertising methods, picture bulletins, decoration, reading lists, etc. Students give talks to the children upon timely topics, and invitations to these talks are posted in the schools. All special holidays are observed by bulletins and reading lists, and birthdays of distinguished people are called to the children's attention.

EQUIPMENT

The most valuable equipment is the working library of the University.

The Library School has the complete collection of manuscript notes and problems which have been prepared since the School opened in 1893, and a collection of library reports and catalogs and of mounted samples, showing methods of administration in all departments. A collection of card catalogs of various forms has been made, including the book forms from Leyden, Holland; Cassel, Germany; and Florence, Italy; and the modern forms approved by the American Library Association. Other forms are represented by photographs.

The School has a collection of printed blanks and forms illustrating methods of administration in different types of

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libraries, many labor-saving devices, and samples of fittings for all departments.

A collection of cataloging rules and of classification systems is making for comparative study. A number of devices and patents, such as temporary binders, pamphlet cases, newspaper files, etc., have been contributed by inventors and manufacturers.

REQUIREMENTS FOR GRADUATION

Credit for 98 hours, including the prescribed military and physical training, in addition to two years' technical library work, is required for graduation. The technical work must be taken at the University, but the work of the first three years may be taken at any college from which credits are accepted by transfer.

COURSE OF INSTRUCTION

Required for the degree of B.L.S.

The work of the first three years must consist of the prescribed subjects, either in the College of Literature and Arts (p. 76) or in the College of Science (pp. 102-3), together with enough electives to make at least ninety-eight hours altogether. Fifteen to eighteen hours' work* a week, including military and physical training, must be chosen each semester. Students are advised to elect as much work as possible in modern languages, history, literature, science, and economics. Special attention is called to comparative literature and philology 1, 2, 3; statistics (Econ. 24, 25); history of American literature (Engl. 16); bibliography of history and the social sciences.

Fourth Year

1. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2);† Selection of Books (Lib. 3);† History of Libraries

* See page 164.

† Electives for general students not candidates for degree of bachelor of arts in library science; but no library electives may be taken before the senior year.

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(Lib. 7);* Library Seminary (Lib. 14);* Elementary Laboratory Course (Lib. 4).

2. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2);* Selection of Books (Lib. 3);* Library Seminary (Lib. 14);* Elementary Laboratory Course (Lib. 4).

Fifth Year

1. Advanced Library Economy (Lib. 5); Bibliography (Lib. 6);* Advanced Reference (Lib. 8);*† Public Documents (Lib. 13);* Advanced Laboratory Course (Lib. 10); Thesis (Lib. 11).

2. Advanced Library Economy (Lib. 5); Bibliography (Lib. 6);* Public Documents (Lib. 13);† Book-Making (Lib. 9);*† Advanced Laboratory Course (Lib. 10); Thesis (Lib. 11).

* Electives for general students not candidates for degree of bachelor of arts in library science; but no library electives may be taken before the senior year.

† Electives for library students.

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SCHOOL OF MUSIC*

AIMS AND SCOPE

The School of Music offers regular courses leading to the degree of bachelor of music, and furnishes opportunity to students not candidates for a degree to spend an indefinite amount of time in the study of an instrument or of the voice.

A course of artists' concerts is given each season under the management of the University Choral Society. In these concerts, to which an admission fee is charged, only artists of the best reputation appear.

The instructors in the School of Music give recitals and lectures on musical subjects during the year.

The course in the history of music, as well as the work in the University Orchestra and the University Choral Society, may be taken by regular students in other departments.

REQUIREMENTS FOR GRADUATION

Credit for 130 semester hours,† including military and physical training credit, together with an acceptable thesis, is required for graduation. The thesis must be on a topic related to music.

Students who are not working for the degree in music may receive a statement from instructors upon completing not less than one year of college work.

Special and preparatory music students are required, in

* A special circular giving complete details of the work of the School of Music may be obtained on application to the Registrar.

† See page 164.

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addition to their practical work in music, to take a certain amount of other studies.

Students enrolled in the department of music only, pay no semester fees, but must pay the music fees. (See p. 299.)

Classes in ear-training meet twice each week. The fundamental principles of musical notation are studied thoroughly, and the ear is trained to recognize intervals, chords, etc., so that the student may eventually think music. Music students are required to attend these classes.

The sight singing classes meet twice each week. This work is required of music students and is open to any University students who desire to take it.

CLASSIFICATION OF SUBJECTS

PRESCRIBED

Music 1; 3 hours.
Music 2; 4 hours.
Music 3; 7 hours.
Music 4; 3 hours.
Music 5; 5 hours.
Music 7, 8, 9, 10; or 12, 13, 14, 15; or 17, 18, 19, 20; 58 hours.
French or German; 16 hours.
Italian 1; 6 hours.
Mathematics 4; 2 hours.
Military 1, 2; 5 hours.
Physical Training—
    Men, 1, 3; 2 hours.
    Women, 7, 9; 3 hours.
Physics 2a; 4 hours.
Rhetoric 1, 7a; 7 hours.

The remaining hours of credit may be obtained in electives offered in the College of Literature and Arts.

MUSICAL ORGANIZATIONS

The University Glee Club is an organization for men. Membership is decided by competition and is limited to sixteen in number. The club meets twice a week for rehearsal.

The Ladies' Glee Club is an organization for the young

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ladies of the University, and is in charge of the head of the vocal department.

The Mandolin and Guitar Club is open to young men. Membership is decided by competition, and the club is associated with the Glee Club in its concerts.

The Military Band is conducted by the Director of the School of Music. It furnishes music for important University occasions and appears at regimental drill of the military department, besides giving several concerts during the year. Membership is limited to thirty in number and is decided by examination.

The University Orchestra meets for a two hours' rehearsal once a week, and is open to all students who play any orchestral instrument ordinarily well.

The University Choral Society is conducted by the head of the vocal department of the School of Music, and meets once a week for rehearsal of choral works. A small fee is charged for membership and singers not connected with the University are admitted.

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COLLEGE OF LAW*

REQUIREMENTS FOR ADMISSION

1. All applicants for admission to the College of Law must be at least 18 years of age and of unquestioned character.

2. Graduates of colleges and of scientific schools of approved standing are admitted upon diploma or certificate, without examination.

3. Graduates from any approved high school in the state are admitted in the same way.

In the absence of proper certificates the usual examinations for admission to the freshman class of the University (p. 62) are required of those who enter as candidates for a degree.

ADVANCED STANDING

The following classes of persons will be admitted to advanced standing:

1. Persons who produce from another law school, in good standing, certificates of having satisfactorily pursued courses in law, included in the following schedule, and of having received credit therein, *provided* that the time spent on such courses is equivalent to the time spent on the same courses in this College. Otherwise, an examination on such courses, given by the instructors in this College, must be satisfactorily passed.

2. Persons who have studied law privately, or in an at-

* A special circular describing the work of the College of Law in detail may be obtained on application to the Registrar.

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torney's office, and pass examinations prescribed by the faculty of the College.

3. Members of the bar of this state, who will be admitted to the third-year class without examination, as candidates for the degree of LL.B.

SPECIAL STUDENTS

Students who do not desire to be candidates for a degree may take one or more courses as special students, upon approval of the faculty of the College, under regulations prescribed by the University (p. 63). Such students will receive credit for work satisfactorily done, and may become candidates for graduation at any time by meeting the requirements of the College.

METHODS OF INSTRUCTION

The methods of instruction used in this College are based largely upon the study of cases. Text-books are used to some extent, and lectures are occasionally resorted to, but the study of the case is regarded as the chief means to the attainment of legal knowledge and proficiency.

LIBRARY AND MOOT COURT

The library consists of the leading text-books on all subjects: Supreme and Appellate Court Reports of Illinois; United States Supreme Court Reports; English Reports; New York, Ohio, Massachusetts, Iowa, Wisconsin, Michigan, and Indiana Reports; American Decisions, American Reports, and American State Reports; the current volumes of the West Company Reporter System, and the leading legal periodicals.

The Moot Court is held once a week for the purpose of familiarizing the student with legal procedure. It is presided over by Judge Harker, the other officers being elected by the law students from their own body. All sec-

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ond and third year students are required to be present and to perform such duties as may be assigned them.

LEGAL STUDY AND UNIVERSITY WORK

The Council of Administration will, upon application, in proper cases, apply credits earned in the College of Law upon other University courses.

Students matriculating in the College of Law may take any of the following courses: economics and social science, and history, subject to the approval of the Dean of the College of Law and the professors concerned. By special arrangement other work in the College of Literature and Arts may also be taken.

COURSE OF INSTRUCTION

Required for the Degree of LL.B.

First Year

1. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Pleadings (Law 4); Personal Property (Law 6); Study of Cases (Law 6a).

2. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Pleadings (Law 4); Criminal Law (Law 5).

Second Year

1. Domestic Relations (Law 7); Evidence (Law 8); Real Property (Law 10a); Equity (Law 12); Damages (Law 13); Carriers (Law 14); Moot Court (Law 26).

2. Evidence (Law 8); Sales (Law 9); Agency (Law 11); Equity (Law 12); Wills (Law 18); Moot Court (Law 26).

Third Year

1. Bills and Notes (Law 15); Trusts (Law 16); Partnership (Law 29); Constitutional Law (Law 22); Corporations, private (Law 17); Moot Court (Law 26).

2. Real Property (Law 10b); Bills and Notes (Law 15); Corporations, municipal (Law 24); Suretyship, and Mortgages (Law 21); Constitutional Law (Law 22); Moot Court (Law 26).

In addition to the foregoing course of instruction, required for

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the degree of LL.B., the following subjects are offered as electives in the College of Law:

Elements of Jurisprudence (Law A); Practical Conveyancing (Law 25); Roman Law (Law 27); Insurance (Law 28); Admiralty (Law 29); Bankruptcy (Law 30); Conflict of Laws (Law 31); Quasi-Contracts (Law 32).

REQUIREMENTS FOR GRADUATION

The requirements for graduation with the degree of bachelor of laws are seventy semester hours of work. A "semester hour," as here used, means one hour per week of class room work for one-half of a year. The degree is conferred upon the completion of the course set forth above.

ADMISSION TO THE BAR

Under the rules of the Supreme Court of Illinois, candidates for admission to the bar of this state must have had a high school education or its equivalent, must have completed a three years' course of study in a law school or law office, and must then pass an examination to be given by the State Board of Bar Examiners.

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COLLEGE OF MEDICINE

(For Faculty of the College of Medicine, see page 19.)

HISTORY

The College of Medicine, the College of Physicians and Surgeons, is located on the corner of Congress and Honore Streets, Chicago, in the heart of the medical quarter of the city. It was founded in the year 1882 by a number of representative physicians and surgeons. In 1892 the College had a thorough organization, and erected a commodious laboratory building, the first building exclusively for laboratory purposes erected by any medical school in the West. Since that time it has grown with steadiness and rapidity. The attendance in 1895-96 was 235; in 1896-97, 308; in 1897-98, 408; in 1898-99, 514, 35 of the students being women; in 1899-1900, 579, 43 being women; in 1900-1901, 676, 49 being women; and in 1901-1902, 705, 49 being women. It became the Medical Department of the University in April, 1897.

Chicago is already the center of medical study in the United States. Since the winter of 1897-98 it has contained a larger number of medical students than any other city in the western hemisphere. These students are distributed among fourteen medical colleges, of which the College of Physicians and Surgeons is the second, as to the size of its classes, and is not outranked by any in respect to its facilities, or the scope and thoroughness of its curriculum, or in regard to the place it occupies in the esteem of the medical profession.

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REQUIREMENTS FOR ADMISSION, SESSION OF 1902-1903

First, a certificate of good moral character from two reputable physicians.

Second, a diploma of a high school or academy accredited by the University of Illinois, or of a similarly accredited school of another university, whose entrance requirements are equivalent to the entrance requirements of the University of Illinois.

Or, third, entrance examination covering the following subjects:

1. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.

2. COMPOSITION AND RHETORIC.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of Rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each, to test his ability to use the English language.

3. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the next year are as follows:

George Eliot's Silas Marner; Pope's Iliad, Books I., VI., XXII., and XXIV.; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Cooper's Last of the Mohicans; Tennyson's Princess; Shakspere's The Merchant of Venice; Scott's Ivanhoe; Shakspere's Macbeth; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

(b) In addition to the above, the candidate will be required to present a brief outline of American Literature. Hawthorne and Lemmon's Outline of American Literature, or an equivalent.

4. LATIN.—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories; also four books of Cæsar's Gallic

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War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

5. GEOMETRY.—Plane Geometry, as given in Well's or Wentworth's Geometry, or an equivalent.

6. HISTORY.—At least one year in one of the following subjects: (a) The History of England and of the United States; (b) General History; (c) The history of Greece and Rome.

7. PHYSICS.—The elements of physical science as presented in such text-books as Appleton's School Physics, or Avery's Elements of Natural Philosophy, or Carhart and Chute's Elements of Physics, or Gage's Elements of Physics.

The entrance examinations are conducted at the medical college on the last three days preceding the opening of each term.

ADVANCED STANDING*

Students who have completed a "medical preparatory course," equivalent to that given by the University of Illinois, and graduates of reputable schools of pharmacy, or dental surgery, *whose course extends over two years* may enter the sophomore class and complete their studies upon three years of attendance, provided they fulfill all other requirements for admission and graduation. *Students thus advanced may not complain of any conflict of hours, nor absent themselves from any part of the lower conflicting course;* but they may make up deficiencies in the work of the winter session during the summer term in such branches as are represented in that course.

COURSE OF STUDY

The collegiate year is divided into two terms, called respectively the winter term and the summer term, and will offer work as set forth in the ensuing schedule. The winter term consists of a session of thirty-two weeks of actual teaching beginning October 1, 1903, and ending May

* For combined undergraduate and medical course of six years, leading to the degrees of B. S. and M. D., see p. 110.

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26, 1904, at which time the annual graduating exercises will be held. The summer term consists of a session of twelve weeks of actual teaching, beginning June 1, 1903, and ending August 22, 1903. Attendance upon the winter term is required in order to secure credit for a year's work (except for those who are in attendance upon the summer term of 1903), and attendance upon four winter terms is required for graduation, except for students who are admitted to advanced standing, as set forth upon page 63. Attendance upon the summer term is optional, and the work is supplementary to the work of the winter term. Students may obtain credit for work done in certain branches, but attendance upon this term does not apply upon the required thirty-two months' attendance necessary for graduation.

The curriculum required for graduation extends over four years. During the first two years the work is confined to the sciences fundamental to practical medicine. During the freshman year this consists of work in histology, biology, embryology, chemistry, materia medica, human anatomy, and physiology. During the sophomore year the study of physiology, chemistry, and human anatomy is continued, and in addition the student takes up pathology, and bacteriology. With the junior year the study of the practical branches of medicine is begun. The entire subjects of medicine, surgery, and obstetrics are covered in recitation courses. The student also begins clinical and bedside work, and receives instruction in medical and surgical specialties. More advanced work along the same lines is continued in the senior year. Medicine, surgery, and obstetrics are gone over again, this time in lecture courses and with greater minuteness of detail and profuseness of illustration. The various special departments of medicine and surgery are presented with like thoroughness, and a large part of the student's time is given to clinical study.

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METHOD OF INSTRUCTION

During the first two years the time of the students is about equally divided between laboratory and didactic work. The plan of instruction in the College contemplates the freest use of laboratory teaching. Wherever possible practical laboratory work is made to supplement didactic teaching. Students are taught not only by prepared specimens, but they are required to prepare their own specimens from the original material, and are thus made familiar with technical methods, so that they become able independently to carry a technical investigation through all of its stages.

Beginning with the fall term of 1901, the College made a considerable departure from the usual freshman and sophomore curricula, by providing for freshman and sophomore students a course of elementary clinics in medicine and surgery. A tendency in medical education for many years has been to eliminate all practical work from the freshman and sophomore years. This has served to make these years exclusively scientific in their subject matter and has removed the students from all contact either with disease or its consideration. The object of the establishment of the elementary clinics was to see if by such clinics the appetite of the student for his scientific work might not be increased, and the quality of that work improved. Two such elementary clinics have been given each week to the freshmen, and two each week to the sophomores. These clinics have been of a character not requiring for their comprehension technical medical knowledge. The success of these clinics has far surpassed the expectations of the faculty. They have served to impress upon students the reasons for their scientific work and have given a stimulus to the work in purely scientific departments, which leaves no room for doubt as to the wisdom of the innovation. This is believed to be one of the most important modifications of the curriculum that has been made for many years.

During the junior and senior years the time is about

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equally divided between clinical and didactic work, with, perhaps, a preponderance of clinical instruction in the senior year. This clinical instruction is carried on, as far as possible, with the student at the patient's side. Attendance upon clinics is required in the same way as upon lectures, and the students are graded upon, and given credit for, their work in the clinical courses just as they are for the work in the didactic and laboratory courses. The students of the junior and senior years are divided into classes for dispensary and bedside work, and these classes have instruction in rotation in the various departments of practical medicine and surgery.

BUILDINGS AND EQUIPMENT

In the summer of 1901 the College purchased from the Board of Education of Chicago the West Division High School property, situated adjacent to the original college building. This purchase, which represents, including alterations, an expenditure of over a quarter of a million of dollars, gives the College three-fourths of a city block lying between Harrison and Congress, and Honore and Lincoln streets, and a group of buildings which, for the purpose of medical education, are unsurpassed in the United States, and equalled in only a few instances in the world. The new College building is a brick and stone structure two hundred feet long by one hundred and ten feet deep, and five stories high. It fronts on four streets and stands on a lot entirely adequate in size for such a building, so that it is freely supplied with air and light. The building contains three large lecture rooms with a seating capacity of two hundred each, a clinical amphitheater modeled on the most modern plans for perfect asepsis, with a seating capacity of over three hundred; an assembly hall with a seating capacity of twelve hundred, and many recitation rooms seating from thirty to one hundred and fifty students each. It also contains special laboratories for physiology, chem-

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istry, pathology, bacteriology, biology, materia medica, and microscopical or chemical diagnosis, each capable of accommodating from fifty to two hundred students at a time. The general equipment of the building and the special equipment of the laboratories are in keeping with the size and character of the building, and may challenge comparison with those of any other school in the country. The assembly hall is so constructed that it may be converted into a gymnasium. It is provided with all the apparatus of a well equipped gymnasium, including numerous shower baths, and gives the College a gymnasium which is fully equal to those possessed by the better class of undergraduate colleges. The use of the gymnasium is free to all the students of the College, and a competent instructor in physical training is employed.

The original college building has been remodeled and is now occupied by the School of Dentistry which the College has established, and by the laboratories of anatomy.

DISPENSARY

The dispensary, which has been conducted for many years in the original college building, has been transferred to the ground floor of the new building, and this floor has been remodeled for its use. There are spacious, well-lighted, clean waiting rooms for the patients, and private rooms for the various departments, which are large enough to accommodate easily the dispensary classes. These rooms in their arrangement and equipment equal physicians' private offices.

HOSPITAL FACILITIES

Members of the faculty and other friends of the College purchased, a few years ago, the adjoining building of the Post-Graduate Medical School and converted it into a hospital of 125 beds. It is a large, handsome structure, 50x100 feet, five stories high, of modern construction, and com-

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pletely furnished. It is connected with the college by a corridor and its clinical resources are thus made easily available for the instruction of students. It is designed to increase these hospital resources as necessity indicates. Directly opposite the College is Cook County Hospital, the only free hospital in Chicago. It contains constantly almost a thousand patients, and supplies a quantity and variety of clinical material which no private institution can command. In the amphitheater of the hospital much of the clinical instruction of the College is given. In addition to the foregoing resources members of the faculty are connected with various other hospitals of the city and freely draw upon them for the benefit of students.

REQUIREMENTS FOR GRADUATION

First, a certificate of good moral character from two reputable physicians.

Second, satisfactory deportment during attendance at college.

Third, satisfactory evidence that the candidate is twenty-one years of age.

Fourth, proof that the candidate has attended at least four full courses of instruction in four separate years, the last of which shall have been in this institution.

Fifth, certificate that the candidate has pursued the study of practical anatomy during two years and to the extent of having dissected at least the lateral half of the human body.

Sixth, certificate that the candidate has attended two full courses of dispensary and hospital clinics.

Seventh, payment of all the college fees in full.

LIBRARY

The College has for several years had a reference library of several thousand volumes. This library owes its foundation to the gift to the College of the collection of books of

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the late Prof. A. Reeves Jackson. It has been added to largely from time to time by contributions from members of the faculty and other friends of the College. Its usefulness has recently been greatly augmented by gifts from the Dean of the Faculty, in consideration of which, and of provision made for its permanent maintenance and growth, it has been named by the faculty the Quine Library. It already contains practically every book of reference required by medical students, and the important medical periodicals. In point of size and completeness it is the second medical library in Chicago, the Newberry Library being the first, and in attendance of readers it is the first. It is in charge of a trained librarian, and is open daily from nine to five for the use of students.

More detailed information concerning the College may be obtained by application to the Registrar of the University, Urbana, Ill., or to the Secretary of the College of Medicine, Dr. Frank B. Earle, Honore and Congress streets, Chicago.

THE SCHOOL OF DENTISTRY

(For Instructors of School of Dentistry, see page 27.)

In 1901 the University, through the College of Physicians and Surgeons, acquired the property of the Illinois School of Dentistry, in Chicago, and opened it in the fall of the same year as the School of Dentistry of the University of Illinois, a department of the College of Medicine. The School occupies the building on the corner of Harrison and Honore streets, formerly occupied by the College of Medicine. The building is a five-story stone structure, furnished throughout with new and modern equipment, commodious, and in every way suitable for its purposes. It is in the center of the medical and dental district, being directly opposite the Cook County Hospital, and therefore is well located as a clinical field for dental instruction.

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EQUIPMENT

The main building of the School contains three well-lighted and well-ventilated lecture rooms in the form of amphitheaters, the smallest of which has a seating capacity of two hundred. The laboratories occupy four floors of the building. Three of them are 25x100 feet each, and one is 25x156 feet. Each laboratory accommodates 120 students. Adjoining the laboratories are preparation rooms for the use of demonstrators and professors. The laboratories are supplied with microscopes, immersion lenses, microtomes, and new projection apparatus, a complete X-ray apparatus, and all other necessary equipment. The physiological laboratory is especially well equipped, and the clinical operating room, chemical and histological laboratories, and dissecting rooms, are all complete.

REQUIREMENTS FOR ADMISSION

Extract from "Code of Rules," in effect session 1899-1900, National Association Dental Faculties:

"The minimum preliminary educational requirements for the session of 1900-1901 of colleges, members of the National Association of Dental Faculties, shall be a certificate of entrance into the second year of a high school, or its equivalent, the preliminary examination to be placed in the hands of any State Superintendent of Public Instruction."

Students desiring to matriculate should bring and present to the School any diplomas, literary or otherwise, which they possess.

The rules and regulations passed by the National Association of Dental Faculties for the government of the Colleges of the Association have been adopted by the faculty of this institution.

"Beginning with last year a radical change has been made by dental schools in the method of examination for admission. Formerly these examinations were made by the officers of the Dental School, but the Faculties' Association,

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at the Omaha meeting in 1898, passed a rule requiring that these examinations be made by the legally constituted officers of instruction of the locality in which the applicant resides.

"Therefore students desiring to matriculate in this School must bring with them credentials signed by a County or State Superintendent of Schools, a City Superintendent of Schools or a principal of a high school.

"These credentials must show the applicant to have progressed in his studies to the grade of the second year of the high school, or its equivalent, in order to entitle him to enter this school for the term beginning October, 1901. These credentials will not be required of applicants who present diplomas from high-schools or colleges." These rules apply to first year students only.

ADVANCED STANDING

Students who present certificates showing that they have taken courses in other schools of equivalent standing, in subjects required in this School, will be accredited with such studies, if satisfactory to the professors in the respective departments.

COURSE OF STUDY

The course of study required for graduation extends through three years. The courses taught are materia medica, operating dentistry, prosthetic dentistry, dental history, the construction of vulcanite and metallic bases, crown and bridge work, clinical comparative methods, infirmary prosthesis, bacteriology, anatomy, physiology, histology, chemistry, neurology, and dental jurisprudence. The work of each year continues seven months and is progressive from one year to another. The system of teaching includes lectures, demonstrations, recitations, and written and oral examinations, as well as individual instruction in actual work.

More detailed information concerning the School of

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Dentistry is given in the special announcement of the School. Address the Director, Dr. A. H. Peck, 92 State street, Chicago, Ill., or the Registrar of the University, Urbana, Ill.

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THE SCHOOL OF PHARMACY

(For Faculty of School of Pharmacy, see p. 28.)

HISTORY

The Chicago College of Pharmacy is a corporation which was founded by prominent pharmacists of Chicago and vicinity in 1859 for the purpose of advancing the practice of pharmacy. One of the first steps taken was the establishment of a school of pharmacy. At that time there was no school of the kind west of the Alleghany Mountains. Members and friends contributed money, books, apparatus, and supplies; teachers were secured and a course of lectures was instituted in November, 1859.

The first class, of but two students, was graduated in 1861. The war caused a suspension of the teaching, and the school was not reopened until 1870. The great fire, in 1871, destroyed the equipment, but pharmacists throughout Europe and America extended help to the institution, furnishing an excellent library and outfit of apparatus, which became the nucleus of the present complete equipment. In 1872 the instruction was resumed for the second time and has since continued without interruption.

"The Pharmacist," a monthly journal published by the College, from 1866 until 1886, did much to advance the interests of pharmacy in the West.

In 1880 the members and graduates of the College took an active part in the formation of the Illinois Pharmaceutical Association, which, in the following year, secured the passage of the pharmacy law.

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The twenty-fifth anniversary of the founding of the College was signalized by the completion and occupation of a building in which ample space for many years' growth was provided. The better accommodations gave an impulse to better work. Up to this time instruction had been given mainly by means of lectures, laboratory work being entirely optional. Laboratory courses in pharmacy, chemistry, and vegetable histology were now made obligatory. A laboratory devoted entirely to prescription compounding was established in 1892. The excellence of the equipment in this department won for the College a medal and diploma at the World's Columbian Exposition.

The College was formally united with the University May 1, 1896, and is now conducted as the technical "School of Pharmacy of the University of Illinois." In the management of the School the Trustees and officers of the University have the assistance of an advisory board of pharmacists elected by the registered pharmacists of the state through the Illinois Pharmaceutical Association.

The School is situated near the business center of Chicago. In addition to the larger amphitheater, known as "Attfield Hall," which has a seating capacity of three hundred and fifty, the building occupied has a smaller hall especially fitted for lectures and demonstrations in chemistry, and capable of seating one hundred and fifty persons. The chemical and pharmaceutical laboratories, as well as the microscopical laboratory and the dispensing laboratory, are commodious and well appointed.

The courses of instruction, covering two terms of seven months each, extending from September to April, inclusive, afford opportunities for a thorough technical training, such as is necessary for the successful practice of pharmacy. The subjects taught are pharmacy, chemistry, botany, physiology, and materia medica.

The system of teaching includes lectures, demonstrations, recitations, written and oral examinations, as well as individual instruction in actual work in operative and dis-

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pensing pharmacy, analytical chemistry, use of the compound microscope, etc. Much time is devoted to laboratory practice.

REQUIREMENTS FOR ADMISSION

Applicants for admission must be at least sixteen years of age and must furnish evidence of their ability to prosecute the work of the course successfully.

The preliminary education should be equivalent to that required for entrance to a good high school.

Students who have pursued courses of study in other colleges of pharmacy, or at the University, will be given credit for such portions of their work as are equivalent to the work required by this School.

REQUIREMENTS FOR GRADUATION

The candidate for the degree of graduate in pharmacy must be twenty-one years of age, must have had four years' practical experience in pharmacy, including the period of attendance at School, and must have attended two full courses of instruction, the first of which may have been in some other reputable college or school of pharmacy. He must have attended regularly the laboratory and lecture courses of this School, must pass the examinations, and must not have been absent more than five times during the term from either laboratory exercises or lectures in any department.

The candidate for the degree of graduate in pharmacy, who presents himself for final examination before he has attained the age or practical experience required, will, if successful, receive a certificate of having finished the course, and will be awarded his diploma when the requirements of age and experience are complied with.

Persons competent to fulfill the general requirements of admission to the University may be granted credit upon the

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University courses for equivalent work satisfactorily completed at the School of Pharmacy.

Further information is given in the special announcement of this School. Address W. B. Day, Actuary, School of Pharmacy, 465-7 State Street, Chicago, Ill.

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SUMMER SESSION

The Summer Session of 1903 will open Monday, June 15th, continue nine weeks, and close Friday, August 14th. No examinations or other conditions will be placed upon admission. All who can do the work are welcome to get what they can from it. Those who can meet the requirements may matriculate in the University if they desire, and in that event may have credits to apply upon regular University courses, when certified, upon examination or otherwise, by the professors in charge. Examination in and credit for some of the courses may be had at the end of six weeks by any who find it impossible to remain during the whole session. Instruction begins on June 16th and closes August 12th.

FEES

A tuition fee of twelve dollars ($12) is required of all students in regular attendance at the session. This entitles one to admission to all special lectures and to as many courses as may be approved by the Director. An extra laboratory fee is charged in some courses for materials used. Any single course may be taken for a fee of six dollars ($6) and the laboratory fee, if there be any in connection with the course taken. For all students who take examinations, credit will be entered upon the University records. For further information address Thomas Arkle Clark, Director, or W. L. Pillsbury, Registrar, Urbana, Illinois.

COURSES OFFERED

ART AND DESIGN.—Two courses. Mr. Lake and Miss Jones.

BOTANY.—Two courses, one of them an elementary course, accepted for admission. Mr. Crocker.

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CHEMISTRY.—Three courses, one of them elementary. Professor Grindley, Mr. Clark, and Mr. Williams.

ECONOMICS.—One course. Dr. Weston.

EDUCATION.—Six courses. Assistant Professor Colvin, Mr. Hollister, and some instructor of reputation from outside of the University.

ENGLISH LITERATURE.—Five courses. Assistant Professor Fulton and Mr. Paul.

FRENCH.—Two courses. Professor Fairfield.

GERMAN.—Three courses. Professor Rhoades.

GOVERNMENT, SCIENCE OF.—One course. Dr. Weston.

HISTORY.—Four courses. Professor Greene, Dr. Schoolcraft, and Mr. Alvord.

LATIN.—Three courses, one for beginners. Professor Barton.

MANUAL TRAINING.—Two courses, one of them the equivalent of Mechanical Engineering 1a. Mr. Irons and Mr. Curtis.

MATHEMATICS.—Nine courses, including elementary algebra, and plane and solid geometry. Assistant Professor Short, Mr. Milne, and Miss White.

PHYSICS.—Four courses. Dr. Watson and Mr. Schultz.

PSYCHOLOGY.—Two courses. Assistant Professor Colvin.

RHETORIC.—Three courses. Professor Clark and Mr. Scott.

ZOOLOGY.—Three courses. Assistant Professor Smith and Mr. Reeves.

The libraries, laboratories, and gymnasiums of the University are open to students in the summer session.

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GENERAL DESCRIPTION OF COURSES

Following the description of each course of instruction will be found the necessary requirements, if any, for admission to that particular course. Careful attention must be given to these requirements and to the sequence of studies thus indicated. For instance, under Architecture 4, for students of the College of Engineering, page 173, there are required "Physics 1 and 3," and "Architecture 2 and 3." Turning now to these subjects, it is found that physics 1 and 3 are the major course of one year, architecture 2 is wood construction, and architecture 3 is metal construction. All these subjects must be satisfactorily passed before admission may be had to the class in architecture 4.

In case a course not required for graduation is selected by less than five students, the right to withdraw the same for the semester is reserved.

Graduate courses of instruction are described under the various subjects, as a rule after the undergraduate courses. They are numbered upward from 100. Other courses may often be arranged by the professors in charge to meet the special requirements of students.

Credit is reckoned in semester "hours," or simply "hours." An "hour" is either one class period a week for one semester, each class period presupposing two hours' preparation by the student, or the equivalent in laboratory, shop, or drawing room.

The semester, the days, and the class period or periods during which each course is given, and the number of "hours" per semester for which the course counts, are shown after each course, as follows: The semester is indi-

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cated by the Roman numerals I., II.; the days by the initial letters of the days of the week; the class period or periods (of which there are nine each day, numbered consecutively from one to nine), by Arabic figures; and the "hours" or amount of credit, by Arabic figures in paranthesis. For example, after the description of Astronomy 5 occur the abbreviations I.; M., W., F.; 6; (3). These are to be read first semester, Monday, Wednesday, and Friday, sixth period, three "hours."

AGRONOMY

Professor HOPKINS, Professor DAVENPORT, Mr. MOSIER, Mr. CRANE, Mr. DALBEY, Mr. RANKIN.

1. DRAINAGE AND IRRIGATION.—Location of drains and irrigation conduits, leveling, digging, laying tile and pipes, filling, and subsequent care; cost of construction and efficiency; sewers for the disposal of waste water from farm buildings and the sewage from kitchen and toilet; farm water pipes, pipe and thread cutting. Class work, laboratory and field practice. *I., first half; daily; 7, 8; or II., second half; daily; 7, 8 (2½).* Mr. CRANE.

2. FIELD MACHINERY.—The tools and machinery of the field,—plows, harrows, and hoes; seeders, drills, corn and potato planters; cultivators, weeders and spraying machines; mowers, rakes, self-binders, corn harvesters and huskers, potato diggers, wagons, etc. Class work and laboratory practice, including setting up and testing machines, noting construction and elements necessary for successful work. *I., first half; daily; 1, 2; or II., second half; daily; 1, 2 (2½).* Mr. CRANE.

3. FARM POWER MACHINERY.—Horse-powers, gas engines, traction engines, windmills, pumps, corn shellers, feed cutters, grinders, and threshing machines,—their construction, efficiency, durability, and care. Class room and laboratory work. *I., second half; daily; 1, 2; (2½).* Mr. CRANE.

4. FARM BUILDINGS, FENCES AND ROADS.—The arrangement, design, construction, and cost of farm buildings, especially of barns, granaries, and silos; the different kinds of fences, their cost, construction, efficiency, and durability; cost and construction of roads and walks. Class work and practice in designing and drafting

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buildings, operating fence-building machines, setting and testing fence posts, making walks, etc. *II., first half; daily; 3, 4; (2½).* Mr. CRANE.

5. FARM CROPS.—Quality and Preservation. Judging of corn, oats, wheat, etc., and a study of market grades of farm crops; shrinkage of grain and care of stored crops to prevent injury and loss. Class and laboratory work. *I., first half; daily; section A, 1, 2; section B, 7, 8; (2½).* Mr. DALBEY.

6. FARM CROPS.—Germination and Growth. Vitality and germination of seeds, preservation of seeds, methods of seeding; conditions of plant growth; peculiarities of the different agricultural plants in respect to structure, habits, and requirements for successful growth; enemies to plant growth,—weeds and weed seeds, their identification and methods of destruction, fungous diseases, such as smut of oats and wheat, and blight, scab, and rot of potatoes, methods of prevention; insects injurious to farm crops and how to combat them. Class room, laboratory, and field work. *II., first half; daily; section A, 1, 2; section B, 7, 8; (2½).* Mr. DALBEY.

7. SPECIAL CROPS.—A special study of farm crops taken up under an agricultural outline,—grain crops, root crops, forage crops, sugar and fiber crops,—their history and distribution over the earth, methods of culture, cost of production, consumption of products and residues, or by-products. Class work supplemented by practical field work and a study of the results of previous experiments, such as detasseling corn, injury to roots of corn by cultivation; selection of seeds of farm crops; special reference to Illinois conditions. Students will have an excellent opportunity to study the work of the Agricultural Experiment Station. *II., daily; 3, 4; (5).* Mr. DALBEY.

Required: Agronomy 2, 5, 6.

8. FIELD EXPERIMENTS.—Special work by the students, conducted in the field. This work consists in testing varieties of corn, oats, wheat, potatoes, and other farm crops; methods of planting corn, seeding grains, grasses, and other forage crops; culture of corn, potatoes, and sugar beets; practice in treating oats and wheat for smut, and potatoes for scab, and studying the effects upon the crops; combating chinch bugs and other injurious insects. Other practical experiments may be arranged with the instructor. Special opportunities will be given to advanced students of high class standing to take up experiments, under assignment and direction of the instructor in farm crops, on certain large farms in the state,

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arrangements having been made with the farm owners or managers for such experiments. *II., second half, and summer vacation; daily; arrange time; (2½-5).* Mr. Dalbey.

Required: Agronomy 7, 12.

9. Soil Physics and Management.—This course is designed to prepare the student better to understand the effects of the different methods of treatment of soils and the influence of these methods upon moisture, texture, æration, fertility, and production. It comprises a review of the origin of soils and the various methods of soil formation; a study of their mechanical composition and classification; of soil moisture and means for conserving it; of soil texture as affecting capillarity, osmosis, diffusion, and as affected by plowing, harrowing, cultivating, rolling, and cropping; of the wasting of soils by washing; fall or spring plowing and drainage as affecting moisture, temperatures, and root development. The work of the class room is supplemented by laboratory work, comprising the determination of such questions as specific gravity, relative gravity, water holding capacity and capillary power of various soils; also the study of the physical effects of different systems of rotation and of continuous cropping with various crops, and the mechanical analysis of soils. *I.; daily; 1, 2; (5).* Mr. Mosier.

Required: Two credits in entrance Physics, Geology 12, and Agronomy 2.

10. Special Problems in Soil Physics.—This work is intended for students wishing to specialize further in the study of the physical properties of soils, and includes the determination by electrical methods of the temperature, moisture, and soluble salt content of various soils under actual field conditions; effect of different depths of plowing, cultivation, and rolling, on soil conditions; effects of different methods of preparing seed beds; the physical questions involved in the formation and redemption of the so-called "alkali," "barren" or "dead dog" soils, and of other peculiar soils of Illinois. *II., or summer vacation; daily; arrange time; (5).* Mr. Mosier.

Required: Agronomy 9.

11. Soil Bacteriology.—A study of the morphology and activities of the bacteria which are connected with the elaboration of plant food in the soil, or which induce changes of vital importance to agriculture, with regard to the effects of cropping and tillage upon these organisms, and with special reference to the study of those forms which are concerned with the formation of nitrates

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and nitrites in the soil and with the accumulation of nitrogen by leguminous crops. Class room and laboratory work. *II.; daily; 6, 7; (5).* Mr. ———.

Required: Botany 5; Chemistry 3b, 4.

12. Fertilizers, Rotations, and Fertility.—The influence of fertility, natural or supplied, upon the yield of various crops; the effect of different crops upon the soil and upon succeeding crops; different rotations and the ultimate effect of different systems of farming upon the fertility and productive capacity of soils. The above will be supplemented by a laboratory study of manures and fertilizers, their composition and their agricultural and commercial value; of soils cropped continuously with different crops and with a series of crops; of the fertility of soils of different types, or classes from different sections of Illinois. *II.; daily; 1, 2; (5).* Professor Hopkins.

Required: Chemistry 13; Agronomy 6, 9.

13. Investigation of the Fertility of Special Soils.—This course is primarily designed to enable the student to study the fertility of those special soils in which he may be particularly interested, and to become familiar with the correct principles and methods of such investigations. It will include the determination of the nature and quantity of the elements of fertility in the soils investigated, the effect upon various crops of different fertilizers added to the soils, as determined by pot cultures, and, where possible, by plot experiments. This work will be supplemented by a systematic study of the work of experiment stations and experimenters along these lines of investigations. *I., II.; arrange time; (2 to 5).* Professor Hopkins.

Required: Agronomy 12.

14. History of Agriculture.—The history and development of agricultural practice and progress, with special reference to the methods employed in ancient times and the effect upon agriculture of the introduction of rational crop rotations, the intelligent use of fertilizers, the introduction of machinery, and the systematic breeding of animals and plants. *II.; first half; daily; 6; (2½).* Mr. Rankin.

15. Comparative Agriculture.—Reasons for the differences in the agriculture of different times, peoples, and countries, and why it is that the agriculture of a region or of a farm is a definite and individual problem, together with the need of harmonizing agricultural practice with natural conditions as well as with the findings

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of science. Circumstances that influence agricultural practice, as soil, climate, machinery, race, custom, land tenure, etc., and what is best under different conditions. Lectures; *II.; F.; 4; (1).* Professor DAVENPORT.

Required: Two years' University work.

16. GERMAN AGRICULTURAL READINGS.—A study of the latest agricultural experiments and investigations published in the German language, special attention being given to soils and crops. The current numbers of German journals of agricultural science will be required and used as a text. This course is designed to give the student a broader knowledge of the recent advances in scientific agriculture, and, incidentally, it will aid him in making a practical application of a foreign language. It is recommended that it be taken after Agronomy 12. *II.; M., W.; 4; (2).* Professor HOPKINS.

Required: Two years' work in German.

17. SPECIAL WORK IN FARM MECHANICS.—Students may arrange for special work in any of the lines covering drainage or farm machinery, either in the second semester or the summer. *(2½-5).* Mr. CRANE.

18. INVESTIGATION AND THESIS.—This course varies in the subject matter of study, according to the department in which theses are written. The work is under the direction of the head of the department in which the work is done. *I., II.; arrange time; (5 to 10).*

ANIMAL HUSBANDRY

Professor MUMFORD, Mr. MOREHOUSE, Mr. FORBES.

1. SHEEP, MUTTON, AND WOOL.—The different grades of wool and their uses in manufactures, together with a critical examination of animals both for mutton, wool, and breeding purposes. The development and characteristics of the several breeds; the most successful methods of flockmasters, and the production of mutton and wool for the markets of the world. Lectures, assigned readings, and extensive practice in judging. *I.; first half; daily; 3, 4; (2½).* Mr. FORBES.

2. SWINE AND THEIR PRODUCTS.—A study of the types and breeds of swine and the most successful methods of growing and marketing them. Lectures, assigned readings, and practice in judg-

Note.—For Plant Breeding, see Thremmatology 1.

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ing. *I.; second half; daily, section A, 3; section B, 4; (2½).* Mr. FORBES.

4. MARKET CLASSES, HEAVY HORSES.—The horse market; an outline of the types and classes in demand; special study of the heavy horse, of the uses to which he is put, and of the breeds suitable for his production, together with the best methods of producing and fitting heavy horses for the market. Lectures, assigned readings, and exhaustive practice in judging. *II.; first half; M., W., F.; 6, 7; (2).* Mr. MOREHOUSE.

5. MARKET CLASSES, LIGHT HORSES.—Coach, carriage, and road horses; bus horses, cab horses, and saddlers; artillery and cavalry horses; a systematic study of their classes and types and of the breeds and methods most suitable for their production; also handling and fitting for market. Lectures, assigned readings, and practice in judging. *II.; first half; T., Th.; 6, 7; Sat. 1, 2; (2).* Mr. MOREHOUSE.

7. PRINCIPLES OF STOCK FEEDING.—The functional activities of the animal body and the end products of their metabolism. Foods are considered first chemically, as affording materials for the construction of the body tissues or of animal products, as meat, milk, wool, etc.; second, dynamically, as supplying the potential energy for the body processes and for external labor; third, as to the fertilizing value of their residues. *I.; first half; daily; 3; (2½).* Professor MUMFORD.

Required: Chemistry 1, 3b, 4, 13; entrance Physics or its equivalent and one year of Botany or Zoology.

8. STOCK BREEDING.—(See Thremmatology 1).

9. INVESTIGATION AND THESIS.—Upon lines to be arranged with instructor for one or both semesters, according to nature of the subject. *(5-10).* Professor MUMFORD.

10. MEAT.—The various cuts of beef, mutton, and pork, their comparative food value, quality and cost; a critical study of quality and richness in meat; the by-products of the slaughter house and their bearing upon the cost of meat. Lectures, assigned readings, and demonstrations. *I.; second half; daily; 1; (2½).* Professor MUMFORD.

11. MARKET CLASSES AND GRADES OF BEEF CATTLE.—An outline of the market classes and grades, including the various grades of beef cattle, butcher stock, cutters and canners, stockers and feeders, and veal calves. A study of beef type from the standpoint of the butcher, the feeder, and the breeder. Lectures, assigned read-

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ings, and exhaustive practice in judging. *I.; second half; daily, section A, 7; section B, 8 (2½).* Mr. FORBES.

12. BREEDS OF BEEF CATTLE.—The history, development, and characteristics of the breeds suitable for beef production. Tracing pedigrees and a critical study of the same. (This course is intended for students expecting to own or manage pure-bred herds.) Lectures, assigned readings, and exhaustive practice in judging. *I.; first half; Lectures, M., W., F., 6; Laboratory or practical exercises in judging, T., Th.; 6, 7; (2½).* Professor MUMFORD.

Required: Animal Husbandry 10 and 11.

13. BEEF PRODUCTION.—Methods and practices in breeding and feeding beef cattle for the open market. By-products of the feed lot and their bearing upon the cost of beef. It is recommended that this course should be taken after Animal Husbandry 10. Lectures, assigned readings, and a study of experimental work. *II.; T., Th.; 8; (2½).* Professor MUMFORD.

14. MANAGEMENT OF PURE-BRED HERDS OF BEEF CATTLE.—Like Animal Husbandry 3, this course is intended for students anticipating the management or ownership of registered herds. The breeding herd, and its housing, feed, and management. The selection and fitting of animals for sale and for the show ring. Disposal of surplus stock. Lectures and assigned readings. *I.; second half; daily; 6; (2½).* Professor MUMFORD.

Required: Animal Husbandry 10, 11, 12, and 13.

15. DAIRY CATTLE.—(See Dairy Husbandry 2 and 3.)

16. STABLE MANAGEMENT AND FEEDING.—Stables; stable floors, fixtures, and other equipment, and their care; feeding and care of work horses and drivers at labor and at rest; care of harness, vehicles, etc. Lectures and reference readings. *I.; second half; M., W., F.; 7; (1½).* Mr. ———.

17. THE EDUCATION AND DRIVING OF THE HORSE.—A critical study of the mental qualities, peculiarities, and limitations of the horse, together with the most successful methods of educating and training him for skillful work at labor or on the road. The rules and practices of correct driving; the responsibilities of the driver and the courtesies of the public highway. Lectures, readings, and practice. *II.; second half; daily; 6, 7; (3).*

18. BREEDS OF LIGHT HORSES.—Their history, development, characteristics, and uses. Lectures and assigned readings. *I.; first half; M., W., F.; 7; (1½).*

Required: Animal Husbandry 5 or its equivalent.

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19. Breeds of Draft Horses.—Their history, development, and characteristics. Lectures and assigned readings. *I.; first half; Tu., Th.; 7; (1).*

20. Breeding, Rearing, and Management.—Selection of breeding stock; care and management of stallions, mares, and foals; buying, selling, and showing. Lectures and assigned readings. *I.; second half; Tu., Th.; 7; (1).*

Required: Animal Husbandry 4 or 5 and 18 or 19.

ANTHROPOLOGY

Professor Daniels.

1. Ethnography.—The physical and psychical elements of ethnography. Origin, characteristics, and subdivisions of races and peoples. Lines of migration and national intercourse. *I.; Tu., Th.; 2; (2).* Professor Daniels. [Not given in 1903-1904.]

Required: A major or minor course in economics, geology, psychology, or zoology.

2. Ethnology.—A comparative study of customs, ceremonies, rites, and folk-lore, of primitive peoples. Special attention is given to the study of primitive religious ideas with reference to their relation to the various civilizations, and also to the psychic nature of man. *II.; Tu., Th.; 2; (2).* Professor Daniels.

Required: Two years of University work. [Not given in 1903-1904.]

ARCHITECTURE

Professors Ricker and White; Assistant Professors McLane and Temple.

2. Wood Construction.—Formulæ and data for computing dimensions and strength of columns, beams, girders, etc., of wood or metal, are given and applied in the solution of examples. Wood and its uses in construction and decoration, seasoning, shrinkage, defects, and modes of protection from decay. Construction and design of wooden floors, walls, ceilings, and roofs, and joinery, doors, windows, bays, inside finish, cornices, wainscoting, stairs, etc. *Kidder's Building Construction and Superintendence; Part II.; I.; W., F.; 6, 7, 8; (3).* Assistant Professor McLane.

Required: General Engineering Drawing 1, 2.

3. Masonry and Metal Construction.—Foundations of stone,

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brick, concrete, and piles; materials employed in stone masonry, their uses, defects, qualities, and modes of preparation. Kinds of masonry and external finish. Tools for stone cutting and their use. Preparation of working drawings, with application to the arch, vault, and dome. Brick masonry, its materials, and bonds, Manufacture and refining of cast iron, wrought iron, and steel, with processes of pattern-making, molding, casting, refining, rolling, etc., and standard dimensions or sections. Special properties and value of metal in a structure, designing a line of columns in mercantile building, and of beams, girders, and footings, together with the study of joints and connections. *Kidder's Building Construction and Superintendence; Part I. II.; Tu., Th.; 6, 7, 8; (3).* Assistant Professor McLANE.

Required: General Engineering Drawing 1, 2.

4. SANITARY CONSTRUCTION.—Recitations and lectures, designs for special problems. Study of plumbing, trap ventilation, removal of wastes, construction of water closets, drains, and systems of water supply; sewage disposal. Water supply and fixtures in dwellings. *Gerhard's Sanitary Engineering; Lectures on Sewage Disposal. I.; M., W., F.; 2; (3).* Assistant Professor McLANE.

Required: Physics 1, 3; Arch., 2, 3.

5. GRAPHIC STATICS AND ROOFS.—Elements of graphic statics and applications in designing trussed roofs. Forces, equilibrium, reactions, moments, bending moments, and shears on beams, center of gravity, moment of inertia and kern of cross sections. Construction of wooden and of metallic roofs, mode of computing loads on roof trusses, obtaining end reactions, drawing strain diagrams, and determining sectional dimensions of members, with the designing of joint connections. *Ricker's Elementary Graphic Statics; Howe's Simple Roof Trusses. II.; M., W., F.; 6, 7, 8; (3).* Assistant Professor McLANE.

Required: Math. 2, 4, 6; Theoretical and Applied Mechanics 1, 2 or 4, 5.

6. HISTORY OF ARCHITECTURE.—Continues through the year and is taken with architecture 7 and 11. Commencing with Egyptian and ending with modern styles, a careful study is made of the more important styles, examining historical conditions, local and inherited influences, structural materials and system, special ornaments, purposes and designs of the buildings, with the most important typical examples of each style. Especial attention given to ideas useful or suggestive in American work, and to tracing gradual evolution

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of architectural forms. One recitation and two illustrated lectures a week. References made to Fergusson, Lubke, Durm, Reber, Choisy, Hamlin, etc. *Fletcher's History of Architecture, 4th Edit. I.; M., Tu., W., Th.; 3; II.; M., Tu., W., Th.; 4; (4).* Professor RICKER.

7. HISTORIC ORNAMENT.—A study of the most important details of the Grecian, Roman, Early Christian, Byzantine, Mohammedan, Romanesque, Gothic, and Renaissance styles. Taken with Architecture 6. Lectures and drawing. *I., Th.; 6, 7, 8; II.; Th.; 1, 2, 3; (1).* Assistant Professor TEMPLE.

Required: Architecture 2, 3, 8.

8. THE ORDERS OF ARCHITECTURE.—A study of the Five Orders of Architecture, and architectural Shades and Shadows and of the proportions and details of the Orders by means of lectures, recitations, blackboard sketches from memory, and problems requiring the use of Orders. *Ware's American Vignola; Lectures on Shades and Shadows . II.; lecture, Tu.; 2; drawing, M., W., F.; 1, 2; (3).* Assistant Professor MCLANE.

Required: Gen. Eng'g Drawing 1; Architecture 20 or 21.

9. MONTHLY PROBLEMS.—An entire day in each month during the second, third, and fourth years is devoted to a problem in design. The program is made known at beginning of the exercise, and sketches must be completed and rendered during the same day. Credit is given for this study only after the completion of each year. *I., II.; first Tu. in each month, all day; (½ for each semester.)* Assistant Professor TEMPLE.

Required: General Engineering Drawing 1, 2.

10. WORKING DRAWINGS.—Conventional methods for representing the different parts of buildings in general and in detail, conventional colors and sectioning; systems of lettering and figuring drawings; working drawings; tracing; drawing for reproduction. *II.; Th.; 6, 7, 8; (1).* Professor WHITE.

Required: Architecture 2, 3.

11. ARCHITECTURAL SEMINARY.—Reports and discussions of original investigations of assigned topics in History of Architecture; reviews of books, abstracts of current technical journals, and other publications. Taken with Arch. 6 and 7. *I.; F.; 3; II.; F.; 4; (1).* Professor RICKER.

12. SUPERINTENDENCE, ESTIMATES, AND SPECIFICATIONS.—This study comprises several specialties not otherwise provided for, so far as they can be taught in a professional school. The subjects

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treated include the duties of a superintendent, his relations to architect, owner, and contractor, the method of supervising work, systems of keeping building accounts, the usual methods of measurement of materials and work, arrangement of computations in proper and convenient order, and approximate prices of material and labor, which vary in different localities. The methods of estimating by squaring, cubing, units, and quantities are each employed and illustrated by problems. A study is made of the general and special clauses of specifications and of their arrangement, as well as of methods of classifying material to facilitate writing specifications. Practice is obtained by writing several sets. *Lectures on Superintendence and Building Law; Hodgson's Estimating; Bower's Specifications. I.; Tu., W., F.; 1; (3).* Professor WHITE.

Required: Architecture 4.

13. HEATING AND VENTILATION.—Scientific theory and practice of warming and ventilating buildings is the object of this study. Commencing with fuels and production of heat, then passing to flow of gases through ajutages and pipes, applying these data to calculation of dimensions of air ducts and chimneys. Different systems of heating by furnaces, hot water, steam, etc., are next examined, with details of each. Sources of impurity in the air and requirements of good ventilation are then considered, with the different methods of ventilation by aspiration, by fans, etc., ending with the study of fans of different types. Numerous problems are given, and heating plants designed. *Carpenter's Heating and Ventilating Buildings; Ricker's Notes on Heating and Ventilation. I.; M., W., Th., F.; 4; (4).* Professor WHITE and Assistant Professor MCLANE.

Required: Architecture 4, 15; Physics 1, 3.

14. ARCHITECTURAL PERSPECTIVE.—Theory of perspective is taught with labor-saving methods of abbreviating work, and designing in perspective is made a special aim. Problems in angular, parallel, vertical, and curvilinear perspective, as well as in perspective shades and shadows, are solved. *Ware's Modern Perspective. I.; M., Th.; 6, 7, 8; lecture, Th.; 4; (3). For Architectural Engineers (2).* Assistant Professor TEMPLE and Professor WELLS.

Required: General Engineering Drawing 1, 2a.

15. REQUIREMENTS AND PLANNING OF BUILDINGS.—A study of the requirements which must be considered to successfully plan schools, churches, libraries, theatres, hospitals, and other usual types of buildings. Numerous problems in planning are given. *II.;*

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lecture, Th.; 2; drawing, M., W., F.; 1, 2, or 2, 3; (3). Professor WHITE.

Required: General Engineering Drawing 1, 2; Architecture 2.

16. RESIDENCE DESIGN.—Practice in design, and study of the requirements for dwellings. The work is limited to residences, since this class of buildings is likely to afford the graduate his first opportunity for independent original work. Lectures and drawing. *II.; Tu.; 1, 2, 3; (2).* Professor WHITE.

Required: Architecture 2, 3, 8.

17. ARCHITECTURAL DESIGNING.—Simple problems in design are solved by sketch plans, elevations, and sections, rendered as required. The object is to obtain as much practice in design as possible, and the course serves as an introduction to senior work in design. *II.; M., W., F.; 1, 2, 3; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 8, 9, 11, 20 or 21.

18. ARCHITECTURAL COMPOSITION.—A careful study is made of the laws of architectural design and of the results of experience. Commences with general principles, passing to an examination of proportions employed in most important styles, arrangement of plan, external design in general detail, ceilings, and interior arrangement of corridors, stairways, and entrances, of internal courts, and of halls for large assemblages. Frequent problems in design afford practical application of the principles. *Van Pelt's Discussion of Composition; I.; M., W., F.; 6, 7, 8; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 11, 17, 20 or 21.

19. ARCHITECTURAL ENGINEERING.—This continues the study of graphic statics, commenced in "Graphic Statics and Roofs," with applications to metallic roofs of wide span, roof trusses of curved or unusual form, and those supported by abutments and jointed. Spherical and conical trussed domes. Effect of moving loads on girders, the graphical analysis of the arch, vault, and dome, and of the Gothic system of vault and buttress. Construction and details of steel skeleton buildings. Practical applications are made to a series of problems in design for specified cases. *Ricker's Notes on Advanced Graphics; Freitag's Architectural Engineering; Ricker's Translation of Wittmann's Arch and Vault. I.; Tu., W., Th.; 5; II.; M., W., F.; 4; (3).* Professor WHITE.

Required: Math. 2, 4, 6, 7, 9; Theoretical and Applied Mechanics 1, 2; Architecture 2, 3, 5.

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20. Prescribed.

Any courses offered in Art and Design amounting to three semester hours. *I., II.; daily; (3).* Mr. LAKE.

21. Optional.

Any advanced courses offered in Art and Design. *I., II.; daily;* Professor FREDERICK.

Required: Architecture 20.

The art and design courses offered as Architecture 20 and 21 are varied to meet the special needs of students of architecture.

22. RENAISSANCE DESIGN.—A study of Architectural Design applied to large problems. *I.; W., Th., F.; 6, 7, 8; (3).* Assistant Professor TEMPLE.

Required: Architecture 17, 18.

23. GOTHIC DESIGN and (24) ROMANESQUE DESIGN.—Courses 23 and 24 are taken together. A prescribed series of tracings of important details is made, and problems in construction and design are worked out as fully as time permits. *Ricker's Translation of "Redtenbacher's Leitfaden." I.; lecture, M.; 1; drawing, M., W., F.; 2, 3; (3).* Professor WHITE.

Required: Architecture 6, 7, 11, 14, 18, 20 or 21.

25. DESIGN OF ORNAMENT.—The study of the design of architectural ornament to decorate the structural forms usually found in practice. These designs will be in charcoal or crayon at as large a scale as possible. *Lectures, Meyer's Hand-book of Ornament. II.; lecture, M., 2; drawing, W., F.; 1, 2, 3, 4; (3).* Assistant Professor TEMPLE.

Required: Architecture 6, 7, 11, 17, 18, 20.

27. DOMESTIC ARCHITECTURE.—Instruction in this subject will be given only in connection with courses in Household Science 2 and 3.

28. MURAL DECORATION.—Includes the study and analysis of some of the best examples of modern decorated interiors; the appropriate use of various materials; the rendering of scale drawings in color, with especial reference to the esthetic effect produced by various harmonies of color. *I.; Tu., 2, 3, 4; Th.; 1, 2, 3; II.; Tu., 1, 2, 3, 4; Th., 1, 2; (2).* Professor WELLS.

29. SHORT HISTORY OF ARCHITECTURE.—(Elective for students in the College of Science or Literature and Arts.) A careful study of the important historical styles of architecture, their origins, systems of construction, elementary forms, decoration by sculpture and painting, chief kinds of buildings, and a series of selected exam-

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ples, illustrated by lantern slides. Offered to not less than four students. *Two weekly lectures with reading of Hamlin's History of Architecture. I.; arrange time; (2).* Professor RICKER.

30. THESIS.—The preliminary work on the thesis is begun during the first semester, but no special time is set apart on the program nor any credit granted for it during this semester.

In the second semester credit may be given to the amount of six hours in architecture and four hours in architectural engineering, and a regular time shall be assigned on the program for this part of the work, but the amount of time so prescribed shall in no case be considered to be the total thesis requirement. Professor RICKER, Professor WHITE, Assistant Professor TEMPLE.

31. ARCHITECTURAL READINGS.—Reading of French and German architectural books for obtaining an acquaintance with technical terms in those languages. Optional work in either or both languages is offered to architectural students. *Laloux' Architecture Grecque; Hauser's Styl-Lehre. I. and II.; M., 6; Each (1).* Professor RICKER.

Required: French or German (10).

32. WATER COLOR RENDERING.—*I.; Tu.; Th.; 1, 2; (1).* Optional for juniors in Architecture.

COURSES FOR GRADUATES

Primary

101. Construction of Extensive Wooden Buildings..

102. Recent Uses of Stone, Brick, and Terra Cotta in Architecture.

103. Metallic Skeleton Buildings.

104. Fire-resisting and Fire-proof Buildings.

105. Sanitation of Public and Semi-public Buildings.

106. Researches on the Evolution of Architectural Styles.

107. Higher Applications of Graphic Statics.

108. Heating and Ventilation of Large Buildings.

109. Higher Studies in Architectural Design.

110. Researches and Experiments in Applied Esthetics.

111. Translation of an approved Technical Architectural Work from the French or German.

112. Indexing and Classification of Periodicals, Books, Data, and Technical Information for Architects and Engineers.

Secondary

113. Stereotomy Applied to American Problems.

114. Examinations of Heating and Ventilation of Buildings.

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115. Photography for Architects.

116. Methods of Reproducing Drawings, Specifications, etc., for Architects.

117. Higher Problems and Methods in Perspective.

118. Practice in Estimates, Specifications, etc., for Large Buildings.

119. Higher Industrial Design.

120. Advanced Water-color Painting.

121. Study of Office Methods and Arrangements.

122. Any *primary* offered in the College of Engineering.

123. Electric Lighting and Wiring for Buildings.

ART AND DESIGN

Professors FREDERICK and WELLS and Mr. LAKE.

1. FREE-HAND DRAWING.—In the latter part of the semester, students not able to take further work in the department are given instruction in expressing light and shade. Weekly exercises in lettering and design. *I., II.; daily; section A, 1, 2; (3); section B, M., W., F., or Tu., Th., Sat.; 3, 4; section C, M., W., F.; 6, 7; (2).* Mr. LAKE.

2. LIGHT AND SHADE.—Color may be taken up during the second half of the semester. Weekly exercises in applied design. *II.; daily; section A, 1, 2; section B, 3, 4; section C, 6, 7; (3).* Mr. LAKE.

Required: Art and Design 1.

3. CAST DRAWING.—A course offered students who enter the department with a knowledge of perspective and light and shade, but without sufficient skill to enter advanced courses. *I., II.; daily; 3, 4; (3).* Professor FREDERICK.

4. PAINTING FROM NATURE.—Still-life in oils, water colors, or pastels. *I.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 1, 2.

5. ADVANCED PAINTING FROM NATURE.—Still-life and landscape in oils, water colors, or pastels. *II.; M., W., F.; 6, 7; (2).* Professor WELLS.

Required: Art and Design 4.

8. MODELING.—The greater part of the semester is devoted to sketching, with occasional careful copies of the antique and original

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design for plaster, iron, and terra cotta decorations. Instruction is given in casting. *Frederick's Plaster Casts and How They are Made. I., II.; section A, M., W., F.; 3, 4; section B, Tu., Th.; 6, 7; (2).* Professor FREDERICK.

8a. A special section for the study of architectural ornament. For architectural students. *I., II.; Th.; 6, 7, 8; (1).* Professor FREDERICK.

Required: Art and Design 1 or 3.

9. ADVANCED MODELING.—A continuation of course 8. *II.; section A, M., W., F.; 3, 4; section B, Tu., Th.; 6, 7, 8; (2).* Professor FREDERICK.

Required: Art and Design 8.

10. PEN RENDERING AND ETCHING.— In this course drawings are made with special reference to the requirements of the reproductive processes. Students who have had previous instruction in drawing are at liberty to practice copper plate etching. Instruction is given in grounding the plate, biting, stopping-out, etc., and in printing from the etched plate. *I.; S.; 2, 3, 4; (1).* Professor FREDERICK.

11. LIFE CLASS.—Study of the draped human figure with reference to portraiture and illustration. *II.; daily; 6, 7; (3).* Professor WELLS.

Admission to this class on examination by the instructor only.

12. INDUSTRIAL DESIGN.—Study of the relation of design to manufacture. *I., II.; daily; time to be arranged; (3).* Professor FREDERICK.

Required: Art and Design 1, 2 or 3, 4, 8, 10.

14. PERSPECTIVE.—Lectures upon the principles of mechanical perspective. The problems given are arranged to have a direct bearing upon the work of other courses in the department. *I., II.; Tu.; 5; (1).* Professor FREDERICK.

16. COLOR.—An elementary course to supplement the weekly exercises in courses 1, 2 and 3. *I., II.; Th.; 5; (1).* Professor FREDERICK.

19. HISTORY AND CRITICISM OF THE ART OF PAINTING.—Weekly illustrated lectures. *(I.); time to be arranged.* Professor WELLS.

20. TEACHERS' CLASS.—In this class an application of the work offered by the department is made to the public school problems. Published courses of art study for the public schools are compared, and the class plans and arranges a course of art study for the

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eight grades of the public schools. *I., II.; W.; 8; (1).* Mr. Lake. [Not given in 1903-04.]

ASTRONOMY

Mr. Brenke.

3. Elements of Astronomy.—A short course, covering the elements of descriptive astronomy and intended chiefly to serve as preparation for Astronomy 6. Methodical and critical observation, and interpretation, of celestial phenomena. Solution of numerical problems, based on observational data secured by the student. *Young's Elements of Astronomy. II.; M., W., F.; 3; (3).* Mr. Brenke.

4. General Astronomy.—Minor course. The course aims to supply a general knowledge of the facts of astronomy and its underlying principles. Studies in the location of constellations and stars. *Young's Elements of Astronomy*, and *Young's General Astronomy. II.; daily; section A, 4; section B, 6; (5).* Mr. Brenke.

Required: Mathematics 4.

5. General Astronomy and Cosmogony.—This is a continuation of course 4. In the latter part of the course the evidence for and against the Nebular Theory is reviewed. The rôle of the tides in cosmogonic development, the present view of the origin and cosmic history of the earth-moon system, together with the testimony of astronomy relating to it. The researches of Darwin and of Lord Kelvin. *I.; M., W., F.; 6; (3).* Mr. Brenke.

Required: An entrance credit in astronomy.

6. Practical Astronomy.—This course, which is offered both for engineers and special astronomical students, is intended to give the student training in the use of instruments of precision. As a subordinate matter, he is introduced to instruments of a higher grade than those employed in ordinary surveying. A second purpose of the course is to train the student in the art of computing. An essential part of the work is the theory of astronomical instruments. *Campbell's Practical Astronomy. I. or II.; Tu., Th.; arrange time; (2).* Mr. Brenke.

Required: Astronomy 3 or 4.

7. Theory of Orbits and Special Perturbations.—The formation and integration of the differential equations of motion of a system of bodies and the derivation of the laws of undisturbed ellip-

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tic, parabolic, and hyperbolic motion. An investigation of the various formulæ and methods for finding the special perturbations of a heavenly body. The methods of Encke, Hansen, and of Variation of Parameters. *Oppolzer's Lehrbuch der Bahnbestimmung.* MR. BRENKE.

Required: Mathematics 1, 3, 7, 9, 14, 16; Astronomy 4.

9. CELESTIAL MECHANICS.—This course is a continuation of course 7, and has to do chiefly with the development and discussion of the absolute perturbations, both for the case in which the orbital eccentricities and inclinations are small, and for that in which they are so large as to make the ordinary series too slowly convergent, or even divergent. Some time is given to the study of subjects connected with figures of equilibrium of the heavenly bodies, and such other questions as are treated in Tisserand's Mecanique Celeste. MR. BRENKE.

Required: Astronomy 7.

10. ASTRONOMICAL SEMINARY AND THESIS.—The work of this seminary is on subjects either related to those considered in the senior courses, or connected with questions arising out of thesis investigations. This course is given in conjunction with astronomy 7 and 9, or with mathematics 12 and 13, according as the one or the other is current. *I., II.; Tu., Th.; 7; (2).* MR. BRENKE.

11. CALCULUS OF VARIATIONS.—See Mathematics 20.

12. SPHERICAL HARMONICS.—See Mathematics 21.

13. POTENTIAL FUNCTION.—See Mathematics 22.

14. OBSERVATIONAL ASTRONOMY.—The laboratory method of presentation is exclusively used in this course. Direct observational studies of celestial phenomena, with and without instrumental aid. The problems set for solution are largely individual. Advanced students are introduced to the working methods of an astronomical observatory. *I.; Tu., Th.; arrange hours; (2).* MR. BRENKE.

Required: Mathematics 1, 3.

BOTANY

Professor BURRILL, Assistant Professor HOTTES, Mr. GLEASON, Miss LATZER, and Mr. CROCKER.

1. HISTOLOGY AND PHYSIOLOGY.—General vegetable histology and vegetable physiology, or study of the cells and tissues of plants and their courses of development in structures and organs; and

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studies in the general activities of plants correlated with external conditions. *II.; 6, 7; (5)* Assistant Professor HOTTES, Mr. GLEASON, and Mr. CROCKER.

Required: Entrance credit in Botany, or Botany 11; Chemistry 1; Art and Design 1.

2. MORPHOLOGY.—The general morphology and taxonomy of plants, including a study of selected types. Occasional field excursions. *I.; 6, 7; (5).* Professor BURRILL and Mr. GLEASON.

Required: Entrance credit in Botany, or Botany 11; Art and Design 1.

In courses 1 and 2 taken together, either in the order of the numbers or the reverse, there is offered a comprehensive treatment of the subject, to serve the double purpose of an introduction to the science for those who desire to continue the study, and as a complete course for general students. Each semester's work is, however, independent, and may be separately credited.

3. CYTOLOGY AND PHYSIOLOGY.—Mostly laboratory work and assigned reading. The course extends through the year, but the work of each semester may be credited separately under the designations of 3a and 3b. The first semester is devoted mainly to cytology and histology, with special attention to technique; during the second semester experimental physiology receives chief attention. *I., II.; 3, 4; (5).* Assistant Professor HOTTES.

Required: Botany 1.

4. TAXONOMY OF SPECIAL GROUPS.—Mostly laboratory and herbarium work, and assigned reading. Field excursions are required. The course extends through the year, but the work of each semester may be credited separately under the designations of 4a and 4b. The first semester is devoted mainly to spermaphytes, the second to sporophytes. *I., II.; 1, 2; (5).* Professor BURRILL.

Required: Botany 2.

5. BACTERIOLOGY.—An introduction to the knowledge of the subject and instruction in methods. *II.; 3, 4; (5).* Professor BURRILL and Miss LATZER.

Required: Chemistry 1, and at least one semester's work in botany or zoology, in the University.

6. BACTERIOLOGY FOR SANITARY ENGINEERS.—Bacteriological methods and their application in water analysis and sewerage. *I. (last seven weeks); daily; 3, 4; (2).* Professor BURRILL.

7. PLANT PATHOLOGY.—Diseases and injuries of plants. Mostly

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laboratory, herbarium, and field work, and assigned reading. *I.; M., W., F.; 1, 2; (3).* Professor BURRILL and Mr. .....

Required: Botany 1, 2.

8. ECONOMIC BOTANY.—Useful plants and plant products. Lectures and assigned reading. *I.; Tu., Th.; 1, 2; (2).* Professor BURRILL.

9. INVESTIGATIONS AND THESIS.—Research work upon selected subjects. Special arrangements for this work should be made during the preceding year. *I., II.; arrange time; (5).* Professor BURRILL.

Required: Botany 1, 2 and at least one year from 3, 4, 5, 7.

10. SEMINARY.—Reports and discussions upon assigned topics and results of research work. For advanced and graduate students. *I., II.; F.; arrange time; (1).* Professor BURRILL.

11. INTRODUCTORY COURSE.—Elementary work chiefly upon flowering plants, including their general structure, activities, life-relations, and classification. The laboratory work is supplemented by field observations and by the study of text. The work during the first nine weeks is upon the structures and organs of plants, and upon the classification of specimens; afterward anatomy, physiology and ecology have chief attention. The first half is recorded as course 11a. The course as a whole is planned to offer general students an opportunity of gaining elementary knowledge of the vegetable kingdom. *I.; 6, 7; (2½ or 5).* Assistant Professor HOTTES, Mr. GLEASON, and Mr. CROCKER.

COURSES FOR GRADUATES

101. BIOLOGICAL BOTANY.—The preparation and study of material by histological and embryological methods, and experiment work with living vegetation in the laboratory and field in working out special problems in the development, physiology, and pathology of plants.

102. SYSTEMATIC BOTANY.—Critical and comparative studies of species included in chosen groups of spermaphytes or sporophytes, or from selected geographic areas, in connection with considerations of genealogic development, geographic distribution, and interrelated association.

103. BACTERIOLOGY.—Investigations upon morphologic and physiologic variation due to treatment; systematic studies upon the number, validity, and relationship of species, researches upon spe-

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cial saprophytic or parasitic kinds of bacteria and upon methods of favoring or combating their activities.

104. EVOLUTION OF PLANTS.—Observations and experiments upon plants and studies in related literature, in gaining information upon such topics as the following: The influence of environment, effects of self and cross fertilization, tendencies of variation, philosophy of selection, nature and laws of heredity.

CHEMISTRY

Professors PALMER and PARR; Associate Professor GRINDLEY; Mr. SAMMIS, Dr. LINCOLN, Mr. STARK, Mr. DEHN, Mr. COOK, Mr. SCHROEDER, Mr. BARKER, Mr. WILLIAMS, Mr. CLARK, Miss KORTEN, Mr. BUSH.

1. ELEMENTARY AND EXPERIMENTAL CHEMISTRY.—This course deals with the general principles of the science.

Richter's Inorganic Chemistry. I.; Lecture, Tu., Th., 5.

Section A (Chem. and Med. Prep.), Lab., M., W., F., 3, 4; Quiz, M., 5; W., 5.

Section B (Agricultural, Science, Literature and Arts); Lab., Tu., Th., Sat., 3, 4; Quiz, W., 5; F., 5.

Section C (Science and Literature and Arts); Lab., M., W., F., 6, 7 or 7, 8; Quiz, Tu., Th., 7.

Section D (Mech. Engineers), Lab., Tu., Th., 7, 8; Quiz, Tu., 3; Th., 3.

Section E (Mech. Engineers), Lab., Th., 6, 7, 8; Tu., 3; Th., 3.

Section F (Civil Engineers), Lab., Tu., Th., 1, 2; Quiz, W., F., 2.

Section G (Elec. Engineers), Lab., Tu., Th., 7, 8; Quiz, M., W., 4.

Section H (Elec. Engineers), Lab., Tu., Th., 7, 8; Quiz, W., F., 2.

Section I (Mun. and San. Engineers and Architects), Lab., Tu., Th., 1, 2; Quiz, M., W., 4.

Section K (Arch. Engineers), Lab., Th., 6, 7, 8; Quiz, M., W., 4.

For engineers (4); for all others (5). Professor PALMER, Associate Professor GRINDLEY, Mr. SAMMIS, Mr. DEHN, Mr. SCHROEDER, Mr. WILLIAMS, Mr. CLARK, Miss KORTEN, Mr. BUSH.

1a. MINOR COURSE—ELEMENTERY AND EXPERIMENTAL CHEMISTRY.—Similar to 1, but consisting chiefly of recitations and laboratory work. *Richter's Inorganic Chemistry. II.; Recitations, Tu., Th., S.; 1; Laboratory, M., W., F.; 1, 2 or 2, 3 (5).* Professor PALMER and Mr. SAMMIS.

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2. DESCRIPTIVE INORGANIC CHEMISTRY.—This course is required of all chemical students. It is mainly devoted to a study of the metallic elements, their classification, compounds, and chemical properties. The work is from lectures and assigned text, without laboratory work. *Richter's Inorganic Chemistry. II., Section A., M., W., F.; 2; Section B., M., W., F., 3; (3).* Associate Professor GRINDLEY.

Required: Chemistry 1.

2a. INORGANIC PREPARATIONS.—A laboratory course designed to accompany the descriptive work of course 2. The work includes the precipitation, crystallization, and purification of various salts, the material being largely obtained from laboratory wastes. *Thorp's Inorganic Chemical Preparations. II.; M., W., F.; 3, 4; (2).* Mr. DEHN.

Required: Chemistry 1.

3a. QUALITATIVE ANALYSIS.—This course includes a study of salts, their formation, solubilities, chemical reactions, etc. The periodic classification of the elements is made the basis for developing the principles of analysis. The work in the laboratory, after illustrating these principles, is occupied with the determination of basic and acid constituents of a given number of unknown substances. Analysis is also made of more complex substances, including natural and commercial products; and the work concludes with a comparative study of methods, difficult separations and problems in synthesis. *I.; daily; 1, 2; (5). II.; Lecture, Tu., Th.; 2; Laboratory, daily; section A, 3, 4; section B, 6, 7 or 7, 8; section C, M., W., F., 6, 7, 8; (5).* Associate Professor GRINDLEY, Mr. SAMMIS and Mr. SCHROEDER.

Required: Chemistry 1.

3b. QUALITATIVE ANALYSIS, MINOR.—This course is arranged to meet the wants of Agricultural and Science students. *II. (first half); Lecture, Tu., Th.; 3; Laboratory, daily, including Sat., 3, 4; (2½).* Associate Professor GRINDLEY, Mr. SAMMIS, Mr. SCHROEDER.

Required: Chemistry 1.

4. ELEMENTS OF ORGANIC CHEMISTRY, MINOR.—A brief course in organic chemistry provided especially for students of agriculture and general science. The work includes consideration of the general characteristics and the mutual relations of certain of the more important classes of carbon compounds, particularly the fats, the carbohydrates, and the proteids. *II. (last half); Lecture, M., W., F.;*

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3; Laboratory, Tu., Th., Sat.; 3, 4; M., W., F., 4; (2½). Professor PALMER, Mr. SAMMIS, and Mr. DEHN.

Required: Chemistry 1, 3b.

5a. ELEMENTARY QUANTITATIVE ANALYSIS.—The laboratory work comprises a series of experiments which illustrate the fundamental principles of gravimetric and volumetric methods. The lectures and recitations consist of a consideration of stoichiometrical relations, the fundamental laws of chemistry and their application to the study of solutions. Special emphasis is placed upon the reasons for the choice of methods, the sources of experimental errors, and the means of avoiding them. Dexterity in the manipulation and in the calculating of results is developed.

During the past few weeks the work is differentiated in order, on the one hand, to meet the needs of those students who are taking the course preliminary to medicine, and, on the other hand, to fulfill the requirements of those who expect to graduate in chemistry. Reading is assigned in Fresenius, Cairns, Ostwald, Sutton, and Blair. *I.; Lectures, Tu., Th.; 5; Laboratory, 10 periods per week in two sections. Section A (chemical), M., W.; 6, 7, 8; F.; 5, 6, 7, 8; section B (medical), Tu., Th.; 6, 7, 8; Sat.; 1, 2, 3, 4; (5).* Dr. LINCOLN.

Required: Chemistry 3a or 3b, 4.

5b. ADVANCED QUANTITATIVE ANALYSIS.—The quantitative separation and determination of the elements are discussed systematically in the lectures, and in the laboratory more or less complicated analyses of mixed salts, silicates, and other refractory materials are assigned, depending somewhat on the needs of the individual student. Results of a much higher degree of accuracy than those required in 5a will be expected. *I. and II.; Lectures, M.; 2; Laboratory, 6 to 12 periods per week; (3 or 5).* Dr. LINCOLN.

Required: Chemistry 5a.

5c. FOOD ANALYSIS.—This course includes the analysis of food stuffs, grains, milled products, alcoholic beverages, baking powders, vinegars, syrups, sugars, etc. Students who have taken work amounting to five hours' credit in this course may arrange to do more advanced work along the following lines: (a) the study of methods for detecting food adulterations; (b) the separation and determination of the nitrogenous constituents of animal and vegetable foods; (c) the identification and estimation of the carbohydrate constituents of food products. *II.; Lecture, Tu.; 6; Labora-*

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tory, 6 to 12 periods per week; arrange time; (3, 5, 8 or 10). Mr. COOK.

Required: Chemistry 5a.

6a. CHEMICAL TECHNOLOGY.—This is a course of lectures comprising a study of technological chemistry as illustrated in those industries having a chemical basis for their principal operations and processes. Much use is made of the journals. *Thorp's Industrial Chemistry* is used as a guide. No laboratory work. *I.; Tu., Th.; 3; (2).* Professor PARR.

Required: Chemistry 5a.

6b. METALLURGY.—Special attention is given to the effect of impurities in ores upon metallurgical processes and finished products. Fuels, refractory materials, and fluxes are described and their value and application explained. *II.; Tu., Th.; 2; (2).* Professor PARR.

Required: Chemistry 5a; Mineralogy.

7a. ELEMENTARY PHYSICAL CHEMISTRY.—This course, extending through one semester, is designed to give an elementary knowledge of the paramount facts of physical chemistry, and their relation to common and practical chemical problems. The instruction is by lectures and recitations, supplemented by work in the laboratory. *Walker's Introduction to Physical Chemistry. II.; Lectures, Tu., Th.; 4; Laboratory, 4 periods per week, Tu., Th.; 6, 7; (3).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

7b. PHYSICAL CHEMISTRY.—This is a general course of lectures and recitations extending throughout the year, and is designed for those students of chemistry and physics who desire more extensive work than course 7a affords. A knowledge of differential calculus is desirable. It is recommended that this course be supplemented by laboratory work (Course 7c) at least three hours a week. *Walker's Introduction to Physical Chemistry,* supplemented by assigned readings. *I. and II.; Lectures, M., F.; arrange time; (4).* Dr. LINCOLN.

Required: Chemistry 5a, 9; Physics 1, 3.

7c. PHYSICAL CHEMISTRY.—A laboratory course supplementary to course 7b. The work consists of a series of experiments, chosen to familiarize the student with the general methods used in technical and theoretical work, the sources of error and the methods of eliminating the same. It comprises a study of the balance, physical properties—density, rotation of the plane of polarized light, refrac-

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tion, etc.—thermometry, distillation and crystallization, molecular weight determinations, thermo-chemical and electro-chemical measurements, reaction, velocities, etc. *I. and II.; Laboratory, 9 to 15 periods; arrange time; (3-5).* Dr. LINCOLN.

Required: Chemistry 5a, 9.

7d. ELECTROCHEMISTRY.—Lectures and Recitations. This course, which includes the modern theories of solutions, comprises a detailed study of the practical applications of electricity to chemical industrial processes, the refining of metals and their electrodeposition. Intended for students going into technical work. It is recommended that this course be supplemented with laboratory work (Course 7e). *Leblanc's Electrochemistry* and *Blount's Practical Electrochemistry. I. and II.; Lectures; arrange time; (2).* Dr. LINCOLN.

Required: Chemistry 1, 3a or 3b; Physics 1, 3.

7e. ELECTROCHEMISTRY.—Laboratory work to accompany lecture course 7d. This course is intended for students going into technical work and for engineers. Special emphasis is placed upon a study of the electrochemical products and the percentage yield as influenced by the current density, the kind of electrodes employed, as well as by changes in the temperature and in the concentration. *I. or II.; 6 periods; arrange time; (2).* Dr. LINCOLN.

Required: Chemistry 5a or 20; Physics 1, 3.

7f. SPECTROSCOPIC ANALYSIS.—This course comprises lecture work with laboratory practice. The student will do practical work with the spectroscope in determining qualitatively the constituents of various mixtures, minerals, and solutions by means of the spark, oxyhydrogen flame, and absorption spectra. *I., II.; by appointment; (2-4).* Professor PALMER and Dr. LINCOLN.

Required: Chemistry 4 or 9, 5a, 7a; Physics 1, 3.

8. IRON AND STEEL ANALYSIS.—Analyses are made of all the constituents by both rapid, or technical, and standard methods. The course also includes the analysis of furnace slags and a study of the methods for decomposing ores and refractory products. *II.; daily; arrange time; (2).* Professor PARR and Mr. COOK.

Required: Chemistry 5a.

9. ORGANIC CHEMISTRY.—The work of this course consists in the discussion of the characteristics of the more typical and simple organic compounds, followed by a brief consideration of most of the important classes of derivatives of carbon. *Remsen's Organic*

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Chemistry. Must be accompanied by either 9a or 9c. *II.; M., W., F.; 2; (3).* Professor PALMER.

Required: Chemistry 2, 5a.

9a. ORGANIC SYNTHESIS AND ANALYSIS.—Laboratory work for students of the chemical course, consisting of the preparation of typical organic compounds, and ultimate organic analysis. *II.; Laboratory, 6 periods per week; arrange time; (2).* Professor PALMER and Mr. DEHN.

9b. ORGANIC SYNTHESIS AND ANALYSIS.—Continuation of 9a, to accompany Chemistry 14. *I.; Laboratory, 6 periods per week; arrange time.* Professor PALMER and Mr. DEHN.

9c. ORGANIC SYNTHESIS AND ANALYSIS.—Laboratory work in organic chemistry for students of the medical preparatory course. A few typical organic compounds are prepared, but the work consists mainly in a study of the chemical reactions and transformations of such organic substances as are especially involved in processes of nutrition or are used in medical practice. *II.; Laboratory, 6 periods per week; arrange time; (2).* Professor PALMER and Mr. DEHN.

10. SANITARY ANALYSIS.—The work consists in the examination and analysis of potable and mineral waters, air, etc. *I.; Tu., Th., Sat.; 3, 4; (2).* Mr. DEHN.

Required: Chemistry 5a or 20.

11. RESEARCH.—In the senior year a special line of work is arranged for each individual, designed particularly to develop self-reliance and initiative in dealing with new problems or topics needing comparative study or review. A thesis must be prepared embodying a thorough review of the literature of the subject, together with the work done in the laboratory. As far as possible the subject must be determined upon and reading begun in the junior year. A seminary is arranged for reports and discussion. A minimum of five semester hours is required. *I., II.; arrange time; (5).* Professors PALMER and PARR and Associate Professor GRINDLEY.

12. THEORETICAL CHEMISTRY.—A brief historical survey of the development of the science, from the earliest times to the present. The course includes the discussion of the evolution of ideas concerning fundamental principles, laws, and theories of chemistry, description of the applications of chemistry in related sciences, and the growth of important chemical industries. Lectures and assigned reading. *II.; M., W.; 2; (2).* Professor PALMER.

Required: Chemistry 4 or 9, 5a, 7a.

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13. Agricultural Chemistry.—A course of lectures upon the chemical principles involved in Agriculture. This course treats of the chemistry of the soil, atmosphere, fertilizers, nutrition of plants and animals, and the composition and utilization of the products of the farm. *I.; M., W., F.; 8; (3).* Associate Professor Grindley.

Required: One year's work in Elementary Chemistry.

13a. Agricultural Analysis.—This course is arranged to meet the special wants of agricultural students. The work begins with the quantitative determination and separation of the more important constituents of soils, fertilizers, and agricultural products; it includes the chemical analysis of foodstuffs, such as grains, fodders, dairy products and meats. *I.; 3, 4; (5).* Dr. Lincoln and Mr. Cook.

Required: Chemistry 3a or 3b, 4.

13b. Advanced Agricultural Analysis.—This course is offered to students who wish to specialize in agricultural chemistry or agricultural experimentation. The work includes the analysis of butter and cheese, the complete analysis of foods, soils, plants, plant ash, rain and drain waters, and the determination of the fuel value of foods. If desirable the work may be varied to meet the special needs of the individual student. *II.; daily; 7, 8; (3-5).* Dr. Lincoln and Mr. Cook.

Required: Chemistry 5a, or 13a.

14. Organic Chemistry.—Special chapters of organic chemistry. *Richter's Organic Chemistry.* Must be accompanied by 9b. *I.; M., W., F.; 3; (3).* Professor Palmer.

Required: Chemistry 9.

15. (a) and (b) Metallurgical Chemistry.—This course includes (a) the wet assay of copper, lead, zinc, and other ores, arsenical and complex as well as the simpler forms; also the analysis of finished metallurgical products, as commercial lead, spelter, copper, etc.; during the last half of the term the work is occupied with (b) the fire assay of lead, gold and silver ores. Fluxes, reagents, and charges are studied in connection with various typical ores, and practice given in use of the crucible and muffle furnaces and in the manipulations connected with fire assaying. *I.; arrange time; (2 each).* Professor Parr and Mr. Cook.

Required: Chemistry 5a; Geology 5.

15. (c) and (d). Electro-Chemical Analysis.—A study (c) of methods and practice in quantitative determination by elec-

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trolytic separation and decomposition of metals and compounds, and (d) a study of the methods employed in the electrolytic separation and refining of metals, treatment of ores, etc. *II.; arrange time; (1 to 3).* Professor PARR and Mr. COOK.

Required: Chemistry 15a.

16. CHEMISTRY FOR ENGINEERS.—This course is arranged particularly for mechanical engineers. It involves the proximate analysis of coals, determination of calorific power, technical analysis of furnace gases, examination of boiler waters, lubricating oils, etc. *II.; section A, Tu., F.; 2, 3, 4; section B, W., Th.; 2, 3, 4; section H, Tu., Th., F.; 2, 3; (3).* Professor PARR and Mr. SCHROEDER.

Required: Chemistry 1.

17. INDUSTRIAL CHEMISTRY.—A laboratory course in the preparation of chemical products from raw materials. The manufacture and proving of pure chemicals, fractionation, and other processes of the manufacturing chemist. *II.; arrange time; (2).* Professor PARR.

Required: Chemistry 5a.

18. SPECIAL COURSES.—Special courses as indicated below, consisting mainly of laboratory work, may be arranged for those competent to pursue them. From 1 to 10 hours' credit will be allowed in the undergraduate courses for such work.

(b). Advanced Metallurgical Chemistry. Professor PARR.

(c). .....

(d). Analysis of paints, oils, and varnishes. *Arrange time.* Professor PARR.

(e) Analysis of commercial fertilizers. *Arrange time; (1-2).* Mr. COOK.

19. SEMINARY.—Reports and discussions upon assigned topics from current chemical literature. One session each fortnight. *I., II.; S.; 2; (1).* Professor PALMER.

20. QUANTITATIVE ANALYSIS.—An elementary course intended especially for students who desire some training in the process of quantitative analysis, but have not the time to enter the regular course in this subject. The laboratory work is practically the same as that offered in course 5a; but the selection of exercises may vary according to the needs of the individual student. *I., or II.; arrange time; (2-5).* Dr. LINCOLN and Mr. COOK.

Required: Chemistry 1, 3a or 3b and 4.

21. PROXIMATE ORGANIC ANALYSIS.—Analysis and valuation of various commercial organic materials and products: (a) Pharma-

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ceutical assaying, including the valuation of drugs and various pharmaceutical preparations, tinctures, extracts, etc., etc.; (b) analysis of proprietary articles, medicines, pills, ointments, salves, etc.; (c) fats, waxes, oils, perfumes, flavoring extracts; (d) dyestuffs. Analysis, tests and identification of raw materials, coloring matters and dyes upon the fiber; (e) rubber, paper, fibers, inks, glue, etc. *Allen's Commercial Organic Analysis, Sadtler and Trimble's Pharmaceutical Chemistry. I. or II.; arrange time; (5 or 10).* Professor PALMER and Mr. DEHN.

24. TOXICOLOGY.—Mainly laboratory work upon the detection and estimation of the more common poisons, organic and inorganic, wall papers, etc. *I., II.; daily; 6, 7; (5).* Professor PALMER and Mr. DEHN.

Required: Chemistry 2, 3b, 5a, and either 4 or 9.

25. URINALYSIS.—Chemical and microscopical examination of urine. *I. or II.; Laboratory 6 periods; arrange time; (2).* Mr. COOK.

Required: Chemistry 2, 3b, 5a.

26. ADVANCED QUALITATIVE ANALYSIS.—Qualitative analysis of minerals, ores, and commercial products. Special effort is made to so familiarize the student with the properties of commercial minerals, and ores, and their industrial products, that he can recognize and identify them by appearance or by simple chemical and physical tests. A considerable variety of specimens is available for the use of the student. The course is intended mainly for chemical and engineering students who expect to specialize along the lines of metallurgy and mining. *II.; daily; 6, 7; (3).* Professor PARR and Mr. SAMMIS.

Required: Chemistry 1 and 3a, 3b or 16.

27. QUALITATIVE ANALYSIS OF THE RARE ELEMENTS.—A detailed study of the rare elements and their compounds. The work consists mainly in the identification and separation of the elements and the study of the formation, solubilities, and chemical reactions of their salts. Reading is assigned in connection with laboratory work. *II.; daily; 6, 7; (3).* Associate Professor GRINDLEY and Mr. SAMMIS.

Required: Two years' work in Chemistry. (Not given in 1903-04.)

28. METHODS OF QUALITATIVE ANALYSIS.—This course consists in the study and investigation of new and special methods of quali-

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tative analysis. *I.; arrange time; (3-5).* Associate Professor GRINDLEY.

29. TECHNICAL GAS ANALYSIS.—Qualitative and quantitative analyses of gases and gas mixtures, including use of all the important forms of modern apparatus for rapid and accurate work. *Hempel's Gas Analysis. I.; Lecture, F.; 4; Laboratory, arrange time; (1).* Dr. LINCOLN.

Required: Chemistry 5a or 20.

30. EXACT GAS ANALYSIS.—A more extensive course than 18a, wherein the most exact methods are employed. *Hempel's Gas Analysis and assigned readings. I.; arrange time; (3).* Dr. LINCOLN.

Required: Chemistry 5a.

COURSES FOR GRADUATES

101. ORGANIC CHEMISTRY.—Special investigations in the aliphatic or in the aromatic series.

102. INORGANIC CHEMISTRY.—Research work in general inorganic chemistry, including the critical and constructive study of methods of analysis, both quantitative and qualitative.

103. PHYSICAL CHEMISTRY.—Investigation of special problems, including thermo-chemical research.

104. CHEMISTRY OF FOODS.—Investigations of the composition, fuel value, digestibility, and dietary value of foods, and the chemical changes involved in cooking.

105. AGRICULTURAL CHEMISTRY.—Special investigations in the field of agricultural chemistry, including the chemistry of plants, foods, soils, and rain, drain, and ground waters.

106. RESEARCH IN METALLURGICAL CHEMISTRY.—(a) Action of solvents in extraction of gold and silver from their ores. (b) Methods of analysis of ores and products.

107. INVESTIGATION OF WATER SUPPLIES.—In connection with State Water Survey.

108. INVESTIGATION OF FUELS.—

(a) Heating power, calorimetric methods.
(b) Adaptation of bituminous coal to gas manufacture, purification of products.
(c) Coke and by-products.

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109. SPECIAL PROBLEMS IN INDUSTRIAL CHEMISTRY.—
(a) Corrosion and scaling of steam boilers.
(b) Purification of feed water.
(c) Cements and mortars.
(d) Paints and pigments.

CIVIL ENGINEERING

Professor BAKER, Assistant Professor KETCHUM, Mr. WEBBER, Mr. MALCOLM, Mr. PARKER.

4. RAILROAD ENGINEERING.—In the field practice the class makes preliminary and location surveys of a line of railroad of sufficient length to secure familiarity with the methods of actual practice. Each student makes a complete set of notes, maps, profiles, calculations, and estimates. The principles of economic location and the construction of railways are considered. A study is made of railway appliances and of maintenance-of-way practice. *Nagle's Field Manual for Railway Engineers, and Tratman's Track. I.; section C, M., W., F.; 2, 3, 4; Tu., Th.; 2; section D, Tu., Th.; 6, 7, 8; S.; 1, 2, 3; W., Th.; 6; (5).* Mr. WEBBER.

Required: Civil Engineering 21, 22, 23.

4a. RAILROAD ENGINEERING.—The first eleven weeks of course 4 are for students in municipal and sanitary engineering. (3.)

5. MASONRY CONSTRUCTION.—The students have experiments in the masonry laboratory, in testing cement, mortar, stone, and brick. *Baker's Masonry Construction. I.; Tu., W., Th., F.; I.; Laboratory, M, or F.; 6, 7; (5).* Professor BAKER.

Required: Theoretical and Applied Mechanics 2; General Engineering Drawing 1, 2.

10. SURVEYING.—For students in the courses of architecture, architectural engineering, electrical engineering, and mechanical engineering. Areas with chain and compass, U. S. public land surveys, and principles of reëstablishing corners; use of transit in finding distances, areas, and in laying out buildings; use of the level in finding profiles and contours. *Pence and Ketchum's Surveying Manual. II.; section A (for Mech. Eng'rs and Arch'ts), M., Th.; 3, 4; section B (for Mech. and Arch. Eng'rs), Tu., S.; 3, 4; section E (for Elect. Eng'rs), Tu., S.; 1, 2; section F (for Elect. Eng'rs), W., F.; 1, 2; (3).* Mr. WEBBER.

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Required: Math. 4; General Engineering Drawing 1, 2; Physics 1, 3.

12. Bridge Analysis.—Instruction and practice are given in the computation of the stresses in the various forms of bridge trusses, by algebraic and graphical methods, under different conditions of loading. *Johnson's Modern Framed Structures. I.; section A, Tu., W., Th., F.; 2; section B, Tu., W., Th., F.; 3; (4).* Assistant Professor Ketchum.

Required: Theoretical and Applied Mechanics 2; Civil Eng'g 20.

13. Bridge Details.—The student makes a tracing of a shop drawing of a bridge, and then makes a critical report upon each element of the design and computes the cost of the bridge. Afterward a comparative study is made of the several forms of details employed by leading designers. *I.; section A, M.; 1, 2, 3; section B, W.; 6, 7, 8; (1).* Assistant Professor Ketchum.

Required: Civil Eng'g 12 and free-hand, sketches, with dimensions, showing full details of a bridge measured by the student.

14. Bridge Design.—Each student designs a bridge, proportioning the sections and working out the details, and afterward makes a complete set of drawings. *II.; daily; 1, 2, 3; (5).* Assistant Professor Ketchum.

Required: Civil Engineering 12, 13.

14a. Bridge Design.—Part of course 14 above for Municipal and Sanitary Engineering students. *II.; M.; 1; Tu., W., Th., F.; 1, 2; (3).*

16. Engineering Contracts and Specifications.—A study is made of the fundamental principles of the law of contract, and of examples of the general and technical clauses of various kinds used in engineering specifications. *Johnson's Engineering Contracts and Specifications. II.; Tu., Th.; 4; (2).* Professor Baker.

Required: Civil Engineering 5, 12, 13; Municipal and Sanitary Engineering 2, 3.

18. Tunneling.—A study is made of the principles of tunneling, and of the practice of the more noted tunnels. *Prelini's Tunneling. II.; Tu., Th.; 7; (2).* Professor Baker.

Required: Mechanical Engineering, 1, 16, 17; Chemistry 1; Physics 1, 3; Theoretical and Applied Mechanics 2; Civil Eng'g 5.

19. Railroad Structures.—Instruction is given by lectures and references to standard authorities. Current practice is studied by the examination of existing structures and by means of a collection

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of the standard drawings of leading railroads. *II.; section C, M.; 6, 7, 8; section D, F.; 6, 7, 8; (1).* Mr. WEBBER.

Required: Civil Eng'g 4; Theoretical and Applied Mechanics 1, 2.

20. GRAPHIC STATICS.—Elements of graphic statics and applications in designing structures. *II.; section C, Tu., F.; section D, M., Th.; 6, 7, 8; (2).* Assistant Professor KETCHUM.

Required: Math. 2, 4, 6; Theoretical and Applied Mechanics 1, 2.

21. SURVEYING.—Instruction is given by means of recitations, lectures, field and office work in the theory, use and adjustment of the compass, level transit, plane table, and sextant. The field work includes the determination of distances by pacing and with the chain and tape; the determination of areas with the compass; transit and plane table; the finding of profiles with the level. A careful study is made of the U. S. land survey methods, and court decisions relating to the re-establishment of corners, boundaries, etc. Problems are assigned in the re-location of boundaries, partition of land, interpretation of deeds and in city and farm surveying. Some time is devoted to topographic drawing. *Baker's Engineers' Surveying Instruments,* and *Pence and Ketchum's Surveying Manual. I.; section G, M., F.; 1; Tu., Th., S.; 1, 2, 3; section H, Tu., Th., 1; M., W., F., 1, 2, 3; section I, M., W., 6; Tu., Th., F., 6, 7, 8; section J, Tu., Th., 7; M., W., F., 6, 7, 8; (5).* Mr. MALCOLM, *G and I;* Mr. PARKER, *H and J.*

Required: General Eng'g Drawing 1, 2; Math. 4.

22. TOPOGRAPHIC SURVEYING.—The theory and use of the stadia and other instruments used in making a topographic survey are considered, as are also the methods of topographic surveying. A complete topographic survey based on a system of triangulation is executed, including the calculations, and platting and completing the map. Some time is given to the precise measurement of bases and angles. Instruction is given in blue-printing and duplicating drawing. *Wilson's Topographic Surveying,* and *Pence and Ketchum's Surveying Manual. II.; section G, M., F., 1; Tu., Th., S., 1, 2, 3; section H, Tu., Th., 1; M., W., F., 1, 2, 3; section I, M., W., 6; Tu., Th., F.; 6, 7, 8; section J, Tu., Th., 7; M., W., F.; 6, 7, 8; (4).* Mr. MALCOLM, *G and I;* Mr. PARKER, *H, and J.*

Required: Civil Eng'g 21; Gen. Eng'g Drawing 1, 2; Math. 4.

23. RAILROAD CURVES.—A study is made of the geometry of the circle as applied to railroad curves and of the methods of locating

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curves in the field. *Nagel's Field Manual for Railroad Engineers. II.; taken in connection with Topographic Surveying (C. E. 22); (1).* Mr. MALCOLM and Mr. PARKER.

Required: Civil Eng'g 21, 22; Gen. Eng'g Drawing 1, 2; Math. 2, 4.

24. METAL STRUCTURES.—A study is made of mill buildings, railroad trestles, mine structures, grain elevators, etc. *I.; Tu., Th.; 6, 7, 8; (2).* Assistant Professor KETCHUM.

Required: Civil Eng'g 12, 13, 19, 20.

30. THESIS.—The preliminary work on the thesis is begun in the first semester, and a written report of progress is required on the first Monday of December and January; but no special time is set apart on the program nor is any credit granted for thesis work during this semester. In the second semester weekly conferences are required, and a credit of one semester hour is granted for thesis work; but the preparation of the thesis is expected to require much more time than a one semester-hour subject. *II.; W. or F.; 6 or 7, as assigned; (1).* Professor BAKER.

COURSES FOR GRADUATES

All primary unless otherwise stated.

101. Location and Construction.

102. Railway Track and Structures, and their Maintenance.

103. Yards and Terminals.

104. Motive Power and Rolling Stock.

105. Signal Engineering.

106. Railway Operation and Management.

107. Bridge Designing.

108. Cantilever and Swing Bridges.

109. Metallic Arches.

110. Metallic Building Construction.

111. Roof Construction.

112. Stereotomy.

113. History of the Development of Bridge Building—Secondary.

128. Practical Astronomy.

129. Description of Work Done.

130. Critical Description of Engineering Construction.

131. Translation of Technical Engineering Works from French or German.

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132. Any Primary in Theoretical and Applied Mechanics or Municipal and Sanitary Engineering.

133. Any Primary in Mathematics, Mechanical Engineering, or Electrical Engineering—Secondary.

134. Indexing of Civil Engineering Periodical Literature—Secondary.

COMMERCE

See under Economics and Materials of Commerce.

COMPARATIVE LITERATURE AND PHILOLOGY

Professors BARTON, MOSS, DODGE, RHOADES, FAIRFIELD, and Dr. NEVILLE.

1. GREEK LITERATURE.—From English readings. This course must be taken as Greek 14, which see.

2. LATIN LITERATURE IN ENGLISH.—This course must be taken as Latin 12, which see.

3. DEVELOPMENT OF THE DRAMA.—Study of the Greek, Roman, English, French, and German drama, in English. The work will be by lectures, with outside reading. *II.; Tu., Th., 8; (2).* Professors MOSS, BARTON, DODGE, FAIRFIELD, and RHOADES.

Required: One year of University work.

4. GENERAL INTRODUCTION TO THE SCIENCE OF LANGUAGE.—The essential principles of the life and growth of language; outlines of the science of phonetics; classification of languages; characteristics of the various branches of the Indo-European family of languages; Indo-European phonology. *I.; Tu., Th.; 6; (2).* Dr. NEVILLE.

Required: Latin 3, Greek 4, German 1, or French 1.

5. HISTORICAL LATIN GRAMMAR.—Historical treatment of inflections and sounds of Latin in its relation to the other Indo-European languages. *II.; Tu., Th.; 6; (2).* Dr. NEVILLE.

Required: Latin 5; Philology 4.

6. HISTORY OF CLASSICAL PHILOLOGY.—*II.; M.; 3; (1).* Dr. NEVILLE.

Required: Latin 1; Greek 4.

DAIRY HUSBANDRY

Assistant Professor FRASER, Mr. ERF, and Mr. GLOVER.

1. MILK.—The character and composition of normal milk; practice in testing with the Babcock test and the lactometer; stand-

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ardizing milk and cream; proper precautions to prevent contamination. Lectures, reference reading, and laboratory work. *I.; M., W., F.; 6, 7, 8; (3).* Mr. ERF and Mr. GLOVER.

2. DAIRY CATTLE.—The cow as a factor in the economic production of milk, butter and cheese; difference in the efficiency of individual animals; establishment of the dairy herd by selection and grading with pure bred sires; the principal characteristics of the dairy cow, with extensive practice in judging; the various breeds adapted to dairy purposes, their history and characteristics, with practice in judging by both dairy and breed standards. *I.; first half; daily; (2½).* Assistant Professor FRASER.

3. DAIRY FARM MANAGEMENT.—Soiling and pasturing dairy cows; crops adapted to the dairy farm, and best methods of converting these into milk; the place and value of the silo on the dairy farm and the best methods of handling and feeding ensilage; a study of the best and most economical systems of feeding, together with the care and raising of calves; housing and general care of the herd; arrangement, ventilation, and care of dairy barn. *I.; second half; dairy; (2½).* Assistant Professor FRASER.

4. CREAM SEPARATION.—A critical study of different systems of cream separation as to rapidity and efficiency, and the comparison of different machines, especially centrifugal separators; designed to be taken in conjunction with course 5. *I.; second half; II.; first half; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

5. BUTTER MAKING.—Ripening the cream; churning, working, packing, and scoring of butter; designed to be taken in conjunction with course 4. *I.; second half; II.; first half; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

7. FACTORY MANAGEMENT.—Care of engines, boilers, and refrigerating machines; practice in pipe cutting and soldering; cooperative and company creameries and cheese factories; planning, construction, equipment, and operation of plants; creamery bookkeeping; designed to be taken in conjunction with courses 4, 5, and 6. *II.; M., W., F.; 6, 7; (3).* Mr. ERF.

8. CITY MILK SUPPLY.—Sources of milk, together with methods of shipping, handling, and distributing, and of securing a healthful product for large cities. *II.; Tu., Th.; 1, 2; (2).* Mr. GLOVER.

9. COMPARATIVE DAIRYING.—A study of the dairy systems and practice of different countries, including the care and management

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of dairy cattle. The principal dairy products of the different countries and the methods of handling and sale, particularly the preparation of milk for direct consumption. The more important conditions, historical and present, and local and inherited influences affecting dairy practices. Recitations, reference readings, and illustrated lectures. *I.; M., W., F.; 2; (3).* Mr. FRASER.

10. DAIRY HUSBANDRY MINOR.—A study of the composition and variations of milk; detection of adulterations by means of the Babcock test and lactometer; standardizing milk and cream; methods of detection of impure and unwholesome milk; where and to what extent milk becomes contaminated and methods of prevention; scoring of butter and cheese. This course is required for graduation of all students in Agriculture who do not take more extended courses in Dairy Husbandry. *I.; M., W., F.; 3; (3).* Mr. ERF and Mr. GLOVER.

11. DAIRY BACTERIOLOGY.—A careful study of the distribution of bacteria as determined by a bacteriological analysis of air in the open field, dairy room, and dairy barns under different conditions, showing where and to what extent milk may become contaminated through the air and from the cow during the process of milking and subsequently; also how this contamination may be largely avoided by proper methods. The effect of bacteria on milk and on the rapidity with which it sours after being produced under different degrees of cleanliness and held at different temperatures. The part that bacteria play in the ripening of cream and making of butter and in the manufacture and ripening of cheese. *I.; daily; 6, 7; (5).* Mr. FRASER.

12. INVESTIGATION AND THESIS.—Subject arranged with instructor. *(5 to 10).* Mr. FRASER and Mr. ERF.

13. FANCY PRODUCTS.—The manufacture of koumiss and primost and of different grades of ice cream. A study of the modifications of milk. *II.; M., W., F.; 1, 2; (3).* Mr. ERF.

14. CHEDDAR CHEESE.—Practice in setting milk, cutting and cooking the curd and pressing and curing cheddar cheese. *I.; first half; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

15. FANCY CHEESE.—The making and curing of fancy cheeses, as Swiss, Edam, Gouda, cottage, etc. *II.; second half; Tu., Th.; 6, 7, 8, 9; Sat.; 1, 2, 3, 4; (2½).* Mr. ERF.

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DRAWING, GENERAL ENGINEERING

Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

1a. LETTERING.—Plain and ornamental alphabets; free-hand and mechanical lettering; titles and title pages. *Phillips' and Kable's Freehand Lettering. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

1b. ELEMENTS OF DRAFTING.—Geometrical constructions; orthographic, isometric, and cabinet projections. *Tracy's Mechanical Drawing. I.; alternate days; 1, 2, 3 or 6, 7, 8; (3).* Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

Required: Drawing, General Engineering 1a.

1c. SKETCHING AND WORKING DRAWINGS.—Architectural sketch plans and details; bridge details; machines, machine parts, and mechanisms; working drawings; drawings finished in color and right line shading. Lectures on drafting instruments, materials; computing instruments; office methods, and reproduction processes. *Lectures and notes. I.; alternate days; 1, 2, 3 or 6, 7, 8; (1).* Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

Required: Drawing, General Engineering 1a, 1b.

2. DESCRIPTIVE GEOMETRY.—Problems relating to the point, line, and plane. The generation and classification of lines and surfaces; planes tangent to surfaces of single and double curvature; intersections; developments, and revolutions. *Church's Descriptive Geometry. II.; alternate days; 1, 2, 3 or 6, 7, 8; (5).* Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

Required: Drawing, General Engineering, 1a, 1b, 1c.

3. ADVANCED DESCRIPTIVE GEOMETRY.—For students making a specialty of mathematics. Curved lines of the higher orders; higher single curved, warped, and double curved surfaces. *Church's Descriptive Geometry,* with references to *Warren's General Problems from the Orthographic projections of Descriptive Geometry. II.; arrange hours.* Mr. KABLE.

Required: Drawing, General Engineering, 2 or 4.

4. DESCRIPTIVE GEOMETRY.—For students making a specialty of mathematics. This course is the same as course 2, without plates. *Church's Descriptive Geometry. II.; alternate days; 1, 2, 3 or 6, 7, 8; (3).* Mr. KABLE, Mr. MATTHEWS, and Mr. SMITH.

Required: Drawing, General Engineering, 1b.

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ECONOMICS*

Professors KINLEY, ROBINSON, FISK, Assistant Professor HAMMOND and Dr. WESTON.

The courses in economics include: General Economics, 1, 2, 3, 12, 16, 18, 20, 21, 101, 102; Economic History, 7, 22; Finance, 4, 5, 6, 8, 9; Commerce, 26, 27, 28, 29, 30, 31, 32, 35, 36, 103; Industry and Transportation, 10, 11, 13, 14, 14a, 25; in Statistics, 23, 24, 33, 34; in Sociology, 15, 17. (See also English 21 and courses in Materials of Commerce.)

Courses 7, 22 and 26 are open to freshmen, without previous requirement.

1. PRINCIPLES OF ECONOMICS.—Attention is confined to the underlying principles of the science. *I.; M., Tu., W., F.; section A, 1; section B, 4; (4).* Assistant Professor HAMMOND and Dr. WESTON.

Required: At least 28 hours of University work.

2. PRINCIPLES OF ECONOMICS.—This course in general economics is offered primarily to students in the colleges of engineering, and agriculture.

The course is offered each semester. In the first semester it is open *only to juniors and seniors in engineering and agriculture.* As repeated in the second semester, its character is more general and it may be taken by sophomores, also, in any of the colleges or schools of the University. *I.; Tu., Th.; 4; (2).* Professor ROBINSON. *II.; Tu., Th.; 7; (2).* Assistant Professor HAMMOND and Dr. WESTON.

3. MONEY AND BANKING.—An elementary study of the history and theory of money and banking, and the monetary history of the United States. *II.; M., W., F.; 4; (3).* Dr. WESTON.

Required: Economics 1, or 2 and 7.

4. FINANCIAL HISTORY OF THE UNITED STATES.—A brief survey of the fiscal systems of the American colonies followed by a study of national finances from the beginning of the American Revolution down to the present time. *I.; M., W., F.; 2; (3).* Assistant Professor HAMMOND.

Required: Economics 1, or 2 and 7.

5. PUBLIC FINANCE.—A study of the principles which should be

* These courses are described in greater detail in the circular on "Courses of Training for Business."

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followed in making public expenditures and in securing public revenues. *II.; M., W., F.; 2; (3).* Assistant Professor HAMMOND.

Required: Economics 1, or 2 and 7.

6. TAXATION.—An investigation into the methods of taxation in the various American Commonwealths. *I., II.; Tu., Th.; 8; (2).* Assistant Professor HAMMOND.

Required: Economics 5.

7. ENGLISH ECONOMIC HISTORY.—Special attention is directed to the evolution of modern industrial institutions. *I.; Tu., Th.; 3; (2).* Dr. WESTON.

8. THE MONEY MARKET.—An advanced course dealing with rates of exchange, functions of bill broker and banker, causes of flunctuations in rates of discount, the concentration of financial dealings at such centers as New York and London, international payments and the determination of rates of foreign exchange. *II.; Tu., Th.; 3; (2).* Professor KINLEY.

Required: Economics 3 and 9.

9. BANKING.—A course in the study of practical banking, with special reference to the United States, England, Germany, France and the Orient. *I.; Tu., Th.; 7; (2).* Dr. WESTON.

Required: Economics 3.

10. CORPORATION MANAGEMENT AND FINANCE.—The growth of corporations; their organization and securities, position and relations of stockholders and directors, analysis of reports, stock speculation, relation of industrial corporations to international competition, receiverships and reorganizations, social and political effects. *I.; M., W., F.; 2; (3).* Professor ROBINSON.

Required: Economics 1, or 2 and 7 or 22.

11. INDUSTRIAL CONSOLIDATIONS.—The development of industrial consolidations, their causes and forms; the promotion, financiering, incorporation and capitalization of corporate consolidations; monopoly prices and monopoly methods; the ability of trusts to affect prices, wages, interest and profits; and the proposed plans for controlling trusts, such as publicity, taxation of profits, and public ownership. *II.; M., W., F.; 2; (3).* Professor ROBINSON.

Required: Economics 10.

12. THE LABOR PROBLEM.—The labor movement and its social significance. The progress of the laboring classes, strikes, arbitration, labor organizations, and similar topics, which are studied, show

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the general character of the course. *I.; W., F.; 4; (3).* Professor KINLEY.

Required: Economics 1, or 2 and 7.

13. RAILWAY MANAGEMENT.—This course considers from the administrative standpoint railways as factors in the social and industrial development of the United States and treats of the following topics:—(1) Historical: conditions of commerce and industry previous to the advent of the railways; primitive methods of transportation, etc.; (2) Geographical: the economic location of railways, etc.; (3) Organization: charter and franchises; capital stock; directors and stockholders; departments; the distribution of authority and responsibility; (4) Traffic management; (5) Financial: Basis of capitalization; use of stocks and bonds; stock watering; distribution of earnings; reports and their interpretation, etc.; (6) Legal: Rights and duties of railways; their status under the common and statute law; relation to leased lines; to employes; to patrons; taxation; public control through commissions. *I.; M., W., F.; 4; (3).* Professor ROBINSON.

Required: Economics 1, or 2 and either 7, 16 or 22. From junior and senior engineers economics 2, only, will be required.

14. RAILWAY SYSTEMS.—This course is a continuation of course 13. *II.; M., W., F.; 4; (3).* Professor ROBINSON.

Required: Economics 13.

14a. SEMINARY IN RAILWAY ADMINISTRATION.—Advanced students in this subject make a detailed study of one of the branches of railway administration. *I., II.; arrange time; (2).* Professor ROBINSON.

Required: Economics 14.

15. CHARITIES AND CORRECTION.—This course deals with the causes of pauperism and crime, with the study of institutions for the care of dependents, and similar topics. *I.; Tu., Th.; 2; (2).* Assistant Professor HAMMOND.

Required: At least 28 hours of University credit.

16. ECONOMIC PROBLEMS.—Section A, consisting of engineers, takes up the study of railway problems, taxation of corporations, and the labor question. Section B, composed of household science students, studies such subjects as expenditure and consumption, household budgets, certain aspects of the labor question and the elements of accounting. *II.; Tu., Th.; 4; (2).* Section A, Professor ROBINSON; Section B, Professor KINLEY.

Required: Economics 1, or 2 and 7.

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17. Sociology.—An elementary, analytical study of the nature, growth and structure of modern civilized society and of the forms and purposes of social groups. *II.; Tu., Th.; 2; (2).* Assistant Professor Hammond.

Required: At least 28 hours of University credit.

18. Economic Seminary.—For investigation and for the study of current economic literature. *I., II.; arrange time, (4 for the year).* Professor Kinley and other instructors in the department.

20. History of Economic Thought.—The history of the development of economic theory since the sixteenth century. *I., II.; 7; (2).* Professor Kinley.

Required: Economics 1, or 2 and 7.

21. Socialism and Social Reform.—*II.; M., W., F.; 7; (3).* Dr. Weston.

Required: Economics 1, or 2 and 7.

22. The Economic History of the United States.—An inquiry into the trend of our development and into the physical, economic, and political forces which have directed and controlled it. Attention is given to the history of some specific great industries. *II.; Tu., Th.; 3; (2).* Professor Robinson.

23. Statistics.—A course in descriptive statistics. The course may be taken by itself, but is better taken with the first half of course 24. *II.; F.; 7; (1).* Assistant Professor Hammond.

Required: Economics 1 or 2.

24. Statistics.—Students of economics should take this course and 23 together. Those who do not wish the mathematical theory of probability may drop out of the class when that part of the subject is reached. For them the mathematical requirement for entrance is not enforced, and courses 23 and 24 count for four hours' credit. All who take the course must take both parts of it, as described under mathematics 26, which see.

25. Public Control of Trade and Industry.—An economic and financial study of the practical results of the public regulation of private business enterprises, and the public control, ownership, and operation of public service corporations such as street railways, water works, gas and electric light plants, docks, and markets. *Tu., Th.; 6; (2).* Professor Robinson.

Required: Economics 1, or 2 and 7.

26. Economic and Commercial Geography.—The work of the first semester is a general consideration of the natural and artificial conditions which affect commercial and industrial development, such

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as climate, rivers, coast lines, plant and animal life, railroads, government, religion, etc.

The work of the first half of the second semester is the Commercial Geography of the Extractive Industries. The work during the latter half of the semester is devoted to the Commercial Geography of the Manufacturing Industries, in the study of which the same methods are followed as in the study of the extractive industries. *I.; M., W.; 3; (2). II.; M., Tu., W., Th.; 4; (4).* Professor FISK.

27. HISTORY OF COMMERCE.—A general survey of commerce from ancient times, with special stress on the growth of commerce since the discovery of America. *I.; Tu., Th.; 4; (2).* Professor FISK.

Required: Economics 1, 2 or 26.

28. DOMESTIC COMMERCE AND COMMERCIAL POLITICS.—A comparative study of the various forms of commercial organization, such as general wholesale and retail trade, department, co-operative, and company stores, peddling, huckstering, and hawking, booths, auctions, commercial agents, including commercial travelers, and the coupon system. *I.; Tu., Th.; 7; (2).* Professor FISK.

Required: Economics 1, or 2 and 7 or 26.

29. FOREIGN COMMERCE AND COMMERCIAL POLITICS.—Continuation of course 28. A study of the various commercial systems (mercantile, free trade, and protective); kinds of tariffs; commercial treaties, reciprocity; commercial statistics and balances; institutions for furthering export trade (commercial museums and bureaus of information, sample houses, consular reports, etc.). *II.; Tu., Th.; 7; (2).* Professor FISK.

Required: Economics 1, or 2, or 7, or 26.

30. HISTORY OF THE COMMERCIAL POLICY OF THE UNITED STATES.—An historical study of all those measures, such as tariff legislation, commercial treaties, navigation laws, bounties, subsidies, consular matters, etc., which have an important bearing on the commercial side of the foreign relations of the United States. *I., II.; M., W.; 7; (2).* Professor FISK.

Required: Economics 1, or 2 and 7, or 26. (Not given in 1903-04).

31. HISTORY OF THE COMMERCIAL RELATIONS OF THE UNITED STATES AND GERMANY.—*II.; Tu., Th.; arrange time; (2).* Professor FISK.

Required: Economics 30.

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32. Domestic and Foreign Markets of the United States.—One hour a week is devoted to a study of the distribution and domestic marketing of American products, especially farm products, while the second hour is given to a study of foreign markets for American exports. *I., II.; Tu., Th.; 2; (2).* Professor Fisk.

Required: Economics 1, or 2 and 26.

33. Economics of Insurance.—The historical development of insurance, and an extended discussion of its economic aspects. The various forms of insurance,—fire, accident, employment and life,—from the standpoint of internal organization and from that of social service. Rates, policies, investments, corporate management, accounting, public supervision, and insurance law. *I.; arrange time; (2).* Professor Robinson.

Required: Economics 10, 24.

34. Corporation Accounting.—The general principles of accounting and auditing in modern business. The report of railway, banking and industrial corporations are analyzed. The work is supplemented with a series of lectures by practical accountants. *II. Tu., Th.; 3; (2).* Professor Robinson.

Required: Economics 10.

35. Consular and Diplomatic Service.—A comparative study of the consular service of the important countries, and of the diplomatic service so far as it affects foreign commerce. Special attention is given to the foreign service of the United States. *I.; arrange time; (2).* Professor Fisk.

Required: Economics 30 and 31.

36. Biography of Commerce and Industry.—This course consists of a series of lectures, once a week, by different instructors, on (*a*) the great captains of industry, (*b*) merchant princes, (*c*) railroad kings, (*d*) economists, (*e*) financiers, (*f*) bankers, (*g*) journalists. *I.; 8; (1).* (Not given in 1903-04.)

40. Bibliography of History and the Social Sciences.—A study of the literature of the subjects rather than of the subjects themselves. The history of thought in the subjects, as a part of the progress of culture, is traced in a brief way. Works representative of various periods and phases of the subject are assembled, and the masterpieces of each period are discussed in some detail. Each student is required to prepare a list of books on an assigned topic suited to the conditions of a selected community. *I.; arrange time; (1).* Various instructors.

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COURSES FOR GRADUATES

Any of the courses thus far described may be taken as graduate work, for credit, except 1, 2, 7, 15, 16, 17, 22, 26, 36, and 40. In addition, the following are offered exclusively for graduate students:—

101. THE THEORY OF VALUE.—Professor KINLEY

102. THE DISTRIBUTION OF WEALTH.—Professor KINLEY.

103. SEMINARY IN COMMERCE.—A study of present international commercial relations, with special reference to the trade conditions of the United States and the extension of her trade to foreign markets. Professor FISK.

104. RESEARCH courses in selected subjects. Under different instructors.

EDUCATION

Professor DEXTER and Assistant Professor COLVIN.

1. PRINCIPLES OF EDUCATION.—The basis for a scientific theory of education, critically considered, from the standpoint of the individual in his relation to the mass. The more general problems of genetic psychology are studied, as well as those essential to the theory and art of teaching. The problems of school education. The making of a course of study. Method in teaching. The recitation. Examinations. Grading and promotion. The various branches, considered as school subjects. *I.; daily; 2; (5).* Professor DEXTER.

Required: Two years of University work.

2. HISTORY OF EDUCATION.—The development of educational theory and practice in their relation to the history of civilization. The educational problems of the earliest culture nations. The early Christian schools. Significance of scholasticism. The growth of the universities. The reformation and its results. The lives and influence of the great educators. *II.; daily; 2; (5).* Professor DEXTER.

Required: Two years of University work.

3. GENERAL METHOD.—Application of the principles of education to the art of teaching. *I.; M., W., F.; 3; (3).* Mr. .....

Required: Education 1.

4. CONTEMPORARY EDUCATIONAL CONDITIONS AND MOVEMENTS IN THE UNITED STATES.—The educational tendencies of to-day. Besides the broader meaning of the whole movement, the school sys-

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tems of our larger cities and towns are carefully studied. *I.; Tu., Th.; 4; (2).* Professor DEXTER.

Required: Education 1 or 2.

5. A COMPARATIVE STUDY OF THE SECONDARY SCHOOLS OF FRANCE, GERMANY, ENGLAND, AND AMERICA.—The French Lycées, the German Gymnasia, the English Board, Public, and Church Schools, and the American Academies and High Schools. *II.; Tu., Th.; 4; (2).* Professor DEXTER.

Required: Education 1 or 2.

6. HIGH SCHOOL ORGANIZATION AND MANAGEMENT.—A discussion of the essential elements of a good high school, together with a consideration of the conditions existing in Illinois; proposed solutions of the many problems of secondary education; desired lines of progress; building up of an accredited high school; equipment; program making; courses of study; electives; discipline. *I.; M., W., F.; 7; (3).* Mr.....

Required: Education 1.

7. SPECIAL METHODS IN SCIENCE AND MATHEMATICS.—Position of science in the curriculum; discussion of general methods in science; special methods with reference to botany, zoology, physics, chemistry, and other sciences, in so far as time will allow; laboratory equipment; purchasing of apparatus; selection and use of material; use of laboratory manuals; text-books; discussion and illustration of methods in algebra and geometry. *I.; Tu., Th.; 3; (2).* Mr.....

Required: Education 1.

8. SPECIAL METHODS IN LANGUAGE AND HISTORY.—The application of the general principles of method to the teaching of language and history; special methods in English composition and rhetoric and the English classics required for admission to the University; methods in language teaching, especially Latin and German; content and method in history teaching. *II.; Tu., Th.; 7; (2).* Assistant Professor COLVIN.

Required: Education 1 and three years of University work.

9. PSYCHOLOGY APPLIED TO THE ART OF TEACHING.—A brief course in genetic psychology, together with a critical study of the mental processes of sense perception, the formation of concepts, attention, suggestion, and imitation in their relation to the teaching process. *II.; M., W.; 4; (2).* Professor DEXTER.

Required: Two years of University work.

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10. SEMINAR IN EDUCATION.—The subject for 1903-1904 is *School Supervision.* The problems of the modern city superintendent from both the educational and business standpoints will be considered. Special attention is given to the problems of school architecture and sanitation. Discussions, reports, and lectures by those actively engaged in the work of superintendency. *I., II.; arrange time; (1).* Professor DEXTER.

Special courses for teachers are offered in other departments of the University. Students electing these courses are expected to have had Education 1 or its equivalent. For description, see English 15, German 13, Latin 9, Rhetoric 8, Zoology 9.

COURSES FOR GRADUATES

Advanced work is offered in the history and philosophy of education. Experimental and statistical problems in education and child study are also directed.

ELECTRICAL ENGINEERING

Professor MORGAN BROOKS, Assistant Professor WILLIAMS, and Mr. MARBLE.

1. ELECTRICAL ENGINEERING.—Lectures and recitations accompanying Elec. Eng'g 21, laboratory practice; for students in other courses of engineering. Principles of electrical machinery, selection, installation, and operation; distribution of power, motor applications. *I.; section A, Tu., Th.; 1; section B, W., F.; 2; (2).* Mr. MARBLE.

Required: Phys. 1 and 3; Math. 9.

4. TELEGRAPHY AND TELEPHONY.—Fundamental principles of electric signaling with illustrations from modern telegraphic methods. Wireless telegraphy. Theory of the telephone; commercial instruments; switching methods. Line construction. *I.; Tu., Th.; 1; (2).* Professor BROOKS.

Required: Phys. 4, Elec. Eng'g 16.

5. ALTERNATING CURRENTS.—A mathematical and graphical treatment of the principles of periodic currents, with theory of the transformer. Application of theory in generators, motors, and transformers. *I.; M., W., F.; 1; (3).* Professor BROOKS.

Required: Elec. Eng'g 16, Phys. 4.

9. LIGHTING.—For architects. Electric lamps and other illuminants, and their effective use. Interior wiring. Methods of electrical distribution. *II.; W.; 6; (1).* Professor BROOKS.

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11. Power Plants.—Principles governing location of lighting plants, and of water-power plants. Economical transmission distance. Selection, arrangement, and installation of generating units. Management and testing of complete plants. *II.; F.; 1; (1).* Assistant Professor Williams.

Required: Elec. Eng'g 5 and 15.

12. Electro-chemistry.—Theory of electrolysis and of heat in chemistry. Applications upon an engineering scale to manufacturing various metals and other products. Electroplating. The electric furnace. *I.; W., F.; 4; (2).* Assistant Professor Williams.

Required: Chem. 1 and Elec. Eng'g 16.

13. Seminary.—A weekly meeting for the discussion of topics from current periodicals, of original scientific papers, including advance copies of transactions of American Institute of Electrical Engineers. *I.; S.; 1, 2; II.; Th.; 2, 3; (2). I.* Assistant Professor Williams and Professor Brooks.

Required: Elec. Eng'g 16.

14. Advanced Alternating Currents.—Development and application of the Steinmetz symbolic method. Peculiarities of single and poly-phase machinery. *II.; Tu., Th.; 1; (2).* Professor Brooks.

Required: Elec. Eng'g 5.

15. Electric Distribution.—Principles of economic arrangement of electric circuits. Line construction, overhead and underground. Interior wiring. Effective lighting. *I.; W., F.; 3; (2).* Professor Brooks.

Required: Elec. Eng'g 16.

16. Dynamo-Electric Machinery.—Theory of the magnetic circuit and of flux. Fundamental principles of dynamos and motors, concluding by the application of these principles to alternating current machinery. *I.; M., W., F.; 1; II.; section E, M., W., F.; 4; section F, M., W., F.; 3; (6).* Assistant Professor Williams.

Required: Physics 1 and 3.

17. Traction.—Theory of grades, curves, and speeds as affecting train resistance. Examples from dynamometer-car practice. Application of electric motors to the problem of electric traction, with illustrations from electric railways. *II.; M., W.; 1; (2).* Assistant Professor Schmidt and Professor Brooks.

Required: Theo. and Applied Mech. 1, 2 and 3, and Elec. Eng'g 16 and 5.

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21. ELECTRICAL ENGINEERING LABORATORY.—For students in other courses of engineering. Illustrations of principles of dynamo machinery. Operation and care of dynamos, motors, and transformers. *I.; 6, 7, 8; section* A_1, *Th.; section* A_2, *F.; section* B_1, *M.; section* B_2, *Tu.; (1).* Assistant Professor WILLIAMS and Mr. MARBLE.

Required: Elec. Eng'g 1.

22. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of direct current dynamos and motors; use of measuring instruments; operation of electric machinery; complete tests similar to those made by dynamo manufacturers. *II.; 6, 7, 8; section* E_1, *Th.; section* E_2, *F.; section* F_1, *Tu.; section* F_2, *W.; (1).* Assistant Professor WILLIAMS and Mr. MARBLE.

Required: Elec. Eng'g 16.

23. ELECTRICAL ENGINEERING LABORATORY.—Study of alternating current instruments, dynamos, motors, and transformers; regulation, efficiency, temperature and insulation tests. *I.; section E, W.; 6, 7, 8; section F, M.; 2, 3, 4; (1).* Assistant Professor WILLIAMS and Mr. MARBLE.

Required: Elec. Eng'g 5 and 22.

24. ELECTRICAL ENGINEERING LABORATORY.—Advanced direct and alternating current testing work; problems in transmission line losses. *II.; section E, M.; 6, 7, 8; section F, M.; 2, 3, 4; (1).* Assistant Professor WILLIAMS and Mr. MARBLE.

Required: Elec. Eng'g 22 and 23.

25. ELECTRICAL ENGINEERING LABORATORY.—Poly-phase testing; transformation two to three phase. Special investigations. *II.; 2, 3, 4; section E, W.; section F, F.; (1).* Assistant Professor WILLIAMS and Mr. MARBLE.

Required: Elec. Eng'g 22 and 23.

27. ELECTRICAL ENGINEERING LABORATORY.—Operation and testing of telegraph and telephone instruments and lines; photometry. *I.; 2, 3; section E, Th.; section F, Tu.; (1).* Mr. MARBLE.

Required: Elec. Eng'g 4 and 16.

32. ELECTRICAL DESIGN.—Calculation and design of electromagnets and of dynamos, direct and alternating, and of transformers. *I.; section E, M.; 2, 3, 4; and Tu., 2, 3; section F, W.; 6, 7, 8; and Th.; 2, 3; (2).* Professor BROOKS and Assistant Professor WILLIAMS.

Required: Elec. Eng'g 16 and Phys. 4.

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33. ELECTRICAL DESIGN.—Drawings and specifications for a complete plant, or design for a large switchboard and distribution system. *II.; section E, F.; 2, 3, 4; section F, M.; 6, 7, 8; (1).* Assistant Professor WILLIAMS.

Required: Elec. Eng'g 5 and 15.

COURSES FOR GRADUATES

Primary

101. Theory of Alternating Currents.
102. Dynamo-Electric Machinery.
103. Alternating Current Machinery.
104. Electrical Transmission of Power.
105. Electric Light and Power Plants.
106. Electro-Metallurgy.
107. Polyphase Testing.
108. Electrical Engineering Research.
109. Electrical Design.

Secondary

111. Theory of Equations.
112. Theory of Determinants
113. Least Squares.
114. Differential Equations.
115. Calculus of Variations.
116. Spherical Harmonics.
117. Potential Function.
118. Advanced Physical Measurements.
119. Mathematical Physics.
120. Mathematical Theory of Electricity and Magnetism.
121. Physical Chemistry.
122. Metallurgical Chemistry.
123. Electro-Chemistry.

ENGLISH LANGUAGE AND LITERATURE

Students who elect both English 1 and 2 may not take course 16 also.

Professor DODGE, Associate Professor JAYNE, Assistant Professor BALDWIN, Mr. PAUL.

1. SELECT PERIODS OF ENGLISH LITERATURE.—The ground covered in English 2 is omitted in this course. *I.; section A, 1; sec-*

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tion B, 2; section C, 3; section D, 8; section E, 6; (4). Assistant Professor BALDWIN, Mr. PAUL, Mr. SCOTT, and Miss KYLE.

2. PROSE WRITERS OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—*II.; section A, 2; section B, 3; section C, 3; section D, 8; section E, 6; (4).* Assistant Professor BALDWIN, Mr. PAUL, Mr. SCOTT, and Miss KYLE.

3. NINETEENTH CENTURY POETRY.—*I., II.; M., W., F.; 3; (3).* Associate Professor JAYNE. (The second semester may not be taken by itself.)

Required: English 1.

4. PROSE WRITERS OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Assistant Professor BALDWIN.

Required: English 1 or 2. (Not given in 1903-1904.)

4a. NON-DRAMATIC POETRY OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—*I., II.; Tu., Th.; 3; (2).* Assistant Professor BALDWIN.

Required: English 1 or 2. (The second semester may be taken without the first.)

5. SHAKSPERE AND HISTORY OF THE DRAMA.—Primarily for graduates. *I., II.; M., W., F.; 2; (3).* Professor DODGE.

Required: English 1 or 2 and either 3 or 4a. (The second semester may be taken without the first.)

6. HISTORY OF ENGLISH CRITICISM.—Primarily for graduates. *I., II.; Tu., Th.; 2; (2).* Professor DODGE.

Required: English 1 or 2 and either 3 or 4a.

7. ENGLISH FICTION.—Open only to senior and graduate students. *I., II.; Tu. and Th.; 3; (2).* Associate Professor JAYNE.

8. OLD ENGLISH (ANGLO-SAXON) GRAMMAR AND PROSE.—*I., II.; M., W., F.; 4; (3).* Professor DODGE.

9. EARLY MIDDLE ENGLISH.—*I., II.; Tu., Th.; (2).* Professor DODGE. (Not given in 1903-1904.)

10. OLD ENGLISH POETRY.—*I., II.; M., W., F.; (3).* Professor DODGE.

Required: English 3. (Not given in 1903-1904.)

11. FOURTEENTH AND FIFTEENTH CENTURY LITERATURE.—*I., II.; Tu., Th.; 2; (2).* Professor DODGE.

Required: English 8.

12. HISTORY OF THE ENGLISH LANGUAGE.—*I., II.; W.; (2).* Professor DODGE.

Required: English 8 and 9. (Not given in 1903-1904.)

13. ICELANDIC.—*I., II.; daily; (5).* Professor DODGE.

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Required: English 8 and 9, or German 1. (Not given in 1903-1904.)

14. THE OLD ENGLISH CHRONICLE AND LEGAL CODES.—Special course for students of politics, economics, and history. As an introduction to the course, Old English Grammar is studied, so far as is necessary for a proper understanding of early phraseology. Primarily for graduates, but open to undergraduates having sufficient preparation. *I., II.; Tu., Th.; 3; (2).* Professor DODGE.

Required: One year of history, economics, sociology, or English Literature.

15. SEMINARY: METHODS OF ENGLISH TEACHING.—Open to senior and graduate students. *I., II.; W.; 8; (1).* Professor DODGE, Associate Professor JAYNE, Assistant Professor BALDWIN, and Mr. PAUL.

(The second semester may be taken without the first.)

16. HISTORY OF AMERICAN LITERATURE.—*I.; M., W., F.; section A, 2; section B, 6; (3).* Associate Professor JAYNE and Mr. PAUL.

17. HISTORY OF THE ENGLISH LANGUAGE.—Elementary course. *I., II.; Tu., Th.; 4; (2).* Professor DODGE.

18. THE TECHNIQUE OF THE ENGLISH NOVEL.—*I.; Tu., Th.; (2).* Associate Professor JAYNE.

Required: 15 hours in English Literature. (Not given in 1903-1904.)

19. THE LITERARY STUDY OF THE BIBLE.—*I., II.; M., W., F.; 3; (3).* Assistant Professor BALDWIN.

20. EIGHTEENTH CENTURY POETRY.—*II.; M., W., F.; 4; (3).* Mr. PAUL. (Not given in 1903-1904.)

Required: English 1 or equivalent.

20a. ELEMENTARY COURSE IN SHAKSPERE.—Introductory to English 5. *II.; M., W., F.; 6; (3).* Mr. PAUL.

Required: English 1 or equivalent.

21. SOCIAL IDEALS IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY.—*II.; M., W., F.; 5; (3).* Associate Professor JAYNE.

Required: Eight hours of English Literature.

22. DANISH LITERATURE.—An elementary course, with rapid reading. *I., II.; M., W., F.; 7; (3).* Professor DODGE.

Required: Sixteen hours of German, or an equivalent.

See also Comparative Literature.

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ENTOMOLOGY

Professor FORBES, Dr. FOLSOM.

1. ELEMENTARY ENTOMOLGY.—This course, open to all matriculated students, is complete in itself, but leads to the courses in general entomology. (Entomology 2 and 3). The field and laboratory work is strictly entomological, but the lectures are largely upon general biology, with entomological illustrations. The subject is taught in part with a view to giving the prospective teacher of zoology command of entomological material for illustrative purposes. *I., II.; Tu., Th.; 6, 7; (2).* Dr. FOLSOM.

2. GENERAL ENTOMOLOGY.—This course and Entomology 3 form a year's connected major work in entomology, covering substantially the whole field. The present course is devoted mainly to field entomology in the fall and later to the morphological and physiological aspects of the subject. Beginning with the collection and preservation of specimens and the making of field observations, it is continued by laboratory studies of typical insects, made with special reference to the recognition of adaptive structures, and experimental work intended to determine their exact utilities. *I.; 3, 4; (5).* Dr. FOLSOM.

Required: Zoology 1, Entomology 1 or 4.

3. GENERAL ENTOMOLOGY.—To be taken either with or without the preceding course. The classification and determination of insects, the study of life histories in the insectary and by field observation, and the collection of information with respect to the oecological relations of insects, are the principal objects of this course. *II.; 3, 4; (5).* Dr. FOLSOM.

Required: Zoology 1 or Entomology 1.

4. ECONOMIC ENTOMOLOGY.—By means of laboratory studies and lectures and field and insectary observations, students will be made familiar with the commonest and most important injurious insects, and with means of preventing or arresting their injuries. *I., II.; M., W., F.; 3, 4; (3).* Professor FORBES and Dr. FOLSOM.

5. ADVANCED ENTOMOLOGY.—Under this head students desiring advanced work in entomology, especially as a preparation for thesis work in this subject, will be individually provided for on consultation with the entomological instructors. The course may be made to cover one or two semesters and to earn a three-hour or a five-hour credit in each. At least a three-hour course for one semester

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will be required as a preparation for entomological thesis work. *I., II.; arrange time; (3 to 5 each semester).* Professor FORBES or Dr. FOLSOM.

Required: Entomology 2, 3, or 4.

6. THESIS INVESTIGATION.—Students specializing in entomology will select a thesis subject, preferably during the junior year. They will be expected to give three hours a day to investigation upon it, under the supervision of an instructor, during their senior year. *I., II.; arrange time; (5).* Professor FORBES and Dr. FOLSOM.

Required: At least a three-hour course in Entomology 5.

7. SYSTEMATIC ENTOMOLOGY.—This course, while primarily entomological, is designed to be of general use to students of biology. The lectures include a historical and critical survey of the systems of classification; a discussion of the aims and methods of classification; the nature of species, genera, and other groups, and the rules of nomenclature; the preparation of taxonomic articles, involving the study of bibliography, synonymy, analytical keys, etc. These subjects receive practical treatment in the laboratory, and to qualified students the unworked material of the State Laboratory of Natural History is available for study. *I., II.; arrange time; (3 each semester).* Dr. FOLSOM.

Required: Entomology 3 or Zoology 1 or 2.

FRENCH

Professor FAIRFIELD, Assistant Professor CARNAHAN, Miss JONES.

1. ELEMENTARY COURSE.—Grammatical study, pronunciation, exercises in composition and conversation. Reading of representative works of modern authors. *I., II.; section A, 1; section B, 2; section C, 3; section D, 4; section E, 7; (4).* Professor FAIRFIELD, Assistant Professor CARNAHAN, and Miss JONES

2. NINETEENTH CENTURY.—(1) The class reads works of Mérimée, George Sand, Balzac, Sandeau, Bourget, Hugo, and others. (2). Outlines of French literature. *I., II.; section A, 1; section B, 7; (4).* Professor FAIRFIELD and Assistant Professor CARNAHAN.

Required: French 1.

3a. SEVENTEENTH CENTURY.—(1) Readings from Molière, Corneille, Racine, Lafontaine, Boileau, de Sévigné, and others. (2)

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Study of French literature and civilization of the century. *I., II.; M., W., F.; 2; (3).* Assistant Professor CARNAHAN.

Required: French 2.

3b. COMPOSITION AND CONVERSATION.—This course may be taken alone or, more profitably, with 3a. *I., II.; Tu., Th.; 2; (2).* Professor FAIRFIELD.

4. EIGHTEENTH CENTURY.—Lectures in French, themes, and collateral reading. Reading of selected works of Voltaire, Montesquieu, Rousseau, Chénier, and Beaumarchais. *I., II.; M., W., F.; 4; (3).* Professor FAIRFIELD.

Required: French 3.

6. In this course special stress will be laid upon the practical handling of the language—writing and speaking the idiom—which is used as far as possible in the class room. The course extends through *two years and is open only to students in the courses in business training. I., II.; M., W., F.; (3).* Professor FAIRFIELD.

For courses in the Drama and Science of Language, see Comparative Literature and Philology.

COURSE FOR GRADUATES

101. OLD FRENCH READINGS.—Clédat, Les Auteurs Français du Moyen Age; Suchier, Aucassin et Nicolete; Gautier, La Chanson de Roland. Study of the laws of phonetic changes. Lectures upon Old French philology. Professor FAIRFIELD.

GEOLOGY

Professor ROLFE, Mr. FOX, and Mr. POOR.

Students expecting to specialize in geology should take courses number 5, 1, 2, 6, 7, 8, 9, 4, in the order named, except that 4 should run parallel with 8 and 9.

1. DYNAMIC AND HISTORIC GEOLOGY.—Dynamic and historic geology. Laboratory exercises in petrography and paleontology.

a. Dynamic Geology. The forces now at work upon and within the earth's crust, modeling its reliefs, producing changes in the structure and composition of its rock masses and making deposits of minerals and ores. A series of localities is studied in which great surface changes have recently taken place, with a view to ascertaining the character of the forces producing such changes, and the physical evidence of the action of like forces in the past.

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b. Petrography of Fragmental Rocks. A laboratory study of fragmental rocks, following the same lines as indicated under 5b.

c. Historical Geology. Substantially an introduction to the history of geology. Especial stress is laid on the development of the North American continent.

d. Paleontology. The scheme of instruction in this subject places before the student the classification adopted for those organic forms occurring as fossils, together with the succession of the various groups in the strata, with the cause, as far as known, for their appearance and disappearance. The student is required to familiarize himself with selected groups of paleozoic fossils, abundant illustrations of which are placed in his hands. *II.; 1, 2; (5).* Professor ROLFE, Mr. FOX, and Mr. POOR.

Required: Geology 5.

2. ECONOMIC GEOLOGY.—A study of the uses man may make of geologic materials, of the conditions under which these occur, and of the qualities which render them valuable. Readings from the various state and government reports, transactions of societies, and monographs, and demonstrations with materials from the collections of the University. A series of laboratory exercises on ores, soils, and structural materials runs parallel with the lecture course. *I.; 6, 7; (5).* Professor ROLFE and Mr. FOX.

Required: Geology 1 or 3.

3. GENERAL GEOLOGY, MINOR COURSE.—This course is an abridgment of courses 5, 1, 2, and 8. One hour each day is devoted to laboratory work, and this time is about equally divided between the study of minerals, rocks, and fossils.

The instruction is by text and lectures, using Le Conte's Elements of Geology as the basis for the class-room work and a specially prepared guide for the laboratory. *II.; 6, 7; (5).* Professor ROLFE, Mr. FOX, and Mr. POOR.

4. INVESTIGATIONS AND THESIS.—For students who select a geological, paleontological, mineralogical, or geographical subject for a thesis. *I., II.; 3, 4; (5).* Professor ROLFE.

Required: Geology 1, 2, 6 or 7, 8 or 9.

5. ELEMENTS OF MINERALOGY, CRYSTALLOGRAPHY AND PETROGRAPHY OF CRYSTALLINE ROCKS.

a. Mineralogy and Crystallography. In the lectures such subjects as follow are discussed: Genesis of minerals; conditions fa-

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voring their deposition; origin of the massive and crystalline forms; relationships of minerals and their classification; the physical properties of minerals, with the conditions which may cause them to vary; the elements of crystallography, including a study of the typical whole, half, and quarter forms of each system, and their identification when in combination. In the laboratory the student is made acquainted with the simplest trustworthy methods for proving the presence or absence of the acids and bases. He is then required to determine a large number of species by their physical and chemical properties only; to trace the origin, transformations, and relationships of each; and explain any variations from the typical form, composition, or physical characters which may occur.

b. Petrography. The classification of rocks, the methods used in their determination, the conditions governing the formation of each species, the decompositions to which they are liable, and the products of these decompositions. *I.; 1, 2; (5).* Professor ROLFE, Mr. FOX, and Mr. POOR.

Required: Chemistry 1.

6. ADVANCED CRYSTALLOGRAPHY.—During the first part of the semester a detailed study of the forms of crystals, their combinations and abnormalities is made. Later the student learns to measure the facial angles of crystals with the contact or reflecting goniometer, and by mathematical calculations to determine its species. *II.; Tu., Th.; 3, 4; (2).* Professor ROLFE and Mr. FOX.

Required: Geology 5 or 10.

7. OPTICAL MINERALOGY.—The student is first made acquainted with the peculiarities of the petrographic microscope. He then places thin sections of minerals and rocks under the microscope and learns to determine their species and the changes which are taking place in them by their effect on transmitted light. *II.; M., W., F.; 3, 4; (3).* Professor ROLFE and Mr. FOX.

Required: Geology 5 or 10.

8. PHYSIOGRAPHY.—Three objects are aimed at in this course, viz: To promote the change in the method of teaching geography so generally advocated in recent years, to provide a rational basis for the study of geographic distribution of animals and plants, to place in their proper light the geographic factors in the history of man and his present well being.

The first part of the semester is devoted to a discussion of the general principles of meteorology, oceanography, and climatology.

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This is followed by a study of the physical geography of North America and Europe, with reference to the objects named above.

It is assumed that the student has a good understanding of political geography, and of the principles of land development, etc., as set forth in such works as *Davis's, Gilbert and Brigham's,* or *Tarr's Physical Geography. I.; 3, 4; (5).* Professor ROLFE and Mr. FOX.

Required: Geology 1, 3, 12 or 13, or an approved entrance credit in geology, or physical geography.

9. ADVANCED PALEONTOLOGY.—The work outlined under geology 1d (p. 220) can do little more than introduce the general subject. To those who desire a better acquaintance with paleontology a course of one or two semesters is offered.

This course includes: (a) Discussion of the biological relations of fossil forms along the lines indicated in Williams' Geological Biology; (b) a discussion of the principles of classification as applied to fossils, together with the characteristics which distinguish the larger groups, using Nicholson, Bernard, and Zittel as guides; (c) a study of the distribution and variations of the genera and species of one or more of the important groups as illustrated by the collections of the University, using the various state reports and Miller's Handbook as aids. *I., II.; 3, 4; (5) either semester.* Professor ROLFE and Mr. FOX.

Required: Geology 1 or 3. A major in botany or zoology.

10. MINERALOGY AND CRYSTALLOGRAPHY.—This course is the same as 5a, and is offered especially to students in chemistry. *I.; daily, 1, 2, until Christmas vacation; (4).* Professor ROLFE, Mr. FOX, and Mr. POOR.

12. AGRICULTURAL GEOLOGY.—A strictly technical course designed to meet the wants of the agriculturist. *II.; 3, 4; (5).* Professor ROLFE, Mr. FOX, and Mr. POOR. Open to agricultural students only.

13. ENGINEERING GEOLOGY.—This is a strictly technical course dealing with those points which are especially useful to engineers. *II.; 3, 4; (5).* Professor ROLFE, Mr. FOX, and Mr. POOR. Open to engineers only.

14. METEOROLOGY.—This course is the same as the first half of 8, and is taken in the same class. It is offered especially to students in agriculture. *I., 3, 4; (2).* Professor ROLFE and Mr. POOR.

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GERMAN

Professor RHOADES, Assistant Professor MEYER, Assistant Professor BROOKS, Miss BLAISDELL.

1. ELEMENTARY COURSE.—*Thomas's Practical German Grammar, Rhoades's edition of Wicdemann's Biblische Geschichten,* with colloquial practice. *I.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 3; section F, 4; section G, 6; section H, 6; section I, 7; (4).* Assistant Professor MEYER, Assistant Professor BROOKS, Miss BLAISDELL.

3. NARRATIVE AND DESCRIPTIVE PROSE.—*Thomas's Practical German Grammar* continued, and exercises in prose composition. *II.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 3; section F, 4; section G, 6; section H, 6; section I, 7; (4)* Assistant Professor MEYER, Assistant Professor BROOKS, Miss BLAISDELL.

Required: German 1.

4. DESCRIPTIVE AND HISTORICAL PROSE.—Selections from standard prose writers of the present century. Sight reading. Prose composition. *I.; section A, 1; section B, 2; section C, 4; section D, 6; section E, 8; (4).* Professor RHOADES, Assistant Professor MEYER, Assistant Professor BROOKS, Miss BLAISDELL.

Required: German 1 and 3, or two years of high school work.

5. GERMAN CLASSICS.—One of Schiller's later dramas and one of Goethe's or Lessing's. Prose composition. *II.; section A, 2; section B, 6; section C, 8; (4).* Professor RHOADES, Assistant Professor MEYER.

Required: German 4.

6. HISTORICAL AND SCIENTIFIC PROSE.—Practice in rapid reading is the purpose of this course; during the second half of the semester works of a general scientific character are read. *II.; section A, 2; section B, 4; (4).* Assistant Professor BROOKS, Miss BLAISDELL.

Required: German 4.

7. HEINE'S PROSE AND POETRY.—Rapid translation and sight reading of selections from Heine's prose works and Hatfield's edition of German Lyrics and Ballads. *I.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 5 or 6, or three years of high school German.

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8. LESSING OR SCHILLER.—This course may accompany course 7, or be taken separately. In 1903-1904 Lessing's Nathan der Weise and other selected works will be read and discussed, as course 8a; in 1904-1905, Schiller's Wallenstein and other selections will be similarly treated, as 8b. Students may elect both options. *I.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 5 or 6, or three years of high school German.

9. GOETHE'S FAUST.—Part I, and portions of Part II. *I.; M., W., F.; 3; (3).* Professor RHOADES.

Required: German 7 or 8, 12. Open only to seniors or by special permission.

10. SELECTIONS FROM GOETHE.— Lectures on the life of Goethe and study of selections from his lyrics, classical dramas and prose works. Outside reading of some work or integral portion of a work, and reports upon the same. The course is intended to supplement 9, but may be taken separately. *I.; Tu., Th.; 3; (2).* Professor RHOADES.

Required: 7, or 8, 12.

11. HISTORY OF MODERN GERMAN LITERATURE.—Lectures, recitations, and reports on assigned collateral reading. *II.; Tu., Th.; 7; (2).* Professor RHOADES.

Required: German 7, 8, or 23, 24.

12. RECENT AND CONTEMPORARY PROSE FICTION.—Rapid reading of works by Freytag, Dahn, Heyse, Sudermann, and others. *II.; M., W., F.; 7; (3).* Assistant Professor MEYER.

Required: German 7 or 23.

16. ADVANCE PROSE COMPOSITION.—Translation of ordinary prose into German, study of idiomatic constructions, and practice in rendering at sight. The work is conducted, as far as practicable, in German, and is given with special reference to the needs of students who intend to teach German. *II.; M., W., F.; 8; (3).* Miss BLAISDELL.

Required: German 12 or 24.

*17. NARRATIVE AND DESCRIPTIVE PROSE.—Rapid reading of easy stories chosen to illustrate phases of German life. Constant reproduction of easy paraphrases and memorizing of colloquial sentences. *I.; M., W., F.; (3).* Assistant Professor BROOKS.

Required: German 3 or equivalent.

* Courses 17-22 are open only to students in business courses.

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*18. DIALOG AND CONVERSATION.—A number of modern farces and plays are read with special attention to the idiomatic use of the language. Conversation based on some of the manuals and upon the reading matter. Reports in German on current topics in the German newspapers. *II.; M., W., F.; 3; (3).* Assistant Professor BROOKS.

*19. JOURNALISTIC GERMAN.—Reading of Prehn's Journalistic German and of current numbers of well-known periodicals and newspapers. *I.; M., W., F.; 3; (3).* Assistant Professor MEYER.

*20. ADVANCED PROSE COMPOSITION.—Practice in rendering English into German and discussion of conditions of life in Germany based upon Fischer's Betrachtungen Eines in Deutschland reisenden Deutschen. *II.; M., W., F.; 8; (3).* Miss BLAISDELL.

*21. HISTORICAL AND ECONOMIC READING.—Selections from standard writers. *I.; Tu., Th.; 7; (2).* Professor RHOADES. [Not given in 1903-04].

*22. CORRESPONDENCE AND BUSINESS PROCEDURE.—Study of trade journals, price lists, time tables, etc. *II.; Tu., Th.; 4; (2).* Professor RHOADES. [Not given in 1903-1904].

23. THE ROMANTIC SCHOOL.—Rapid translation and sight reading; reports on assigned reading. The course is offered as an alternative of course 7, though students may elect both. *I.; M., W., F.; 4; (3).* Professor RHOADES.

Required: German 5 or 6, or three years of high school German.

24. RECENT AND CONTEMPORARY DRAMA.—Study of dramas by Heyse, Hauptmann, Wilbrandt, Fulda, and others. This course is offered as an alternative of course 12, though students may elect both. *II.; M., W., F.; 4; (3).* Professor RHOADES.

25. TEACHERS' COURSE.—Lectures, discussion of methods, examination of text-books. Open to seniors and special students who have not less than 20 hours' credit in German. It should be accompanied or preceded by Education 1 or its equivalent. *II.; F.; 7; (1).* Professor RHOADES.

26. GERMAN LITERATURE BEFORE THE REFORMATION.—Lectures, recitations, and reports on assigned reading. The course is intended to cover the period not included in course 11, and students who intend to take course 11, are advised to elect course 26. *I.; Tu., 8; (1).* Assistant Professor BROOKS.

*Courses 17-22 are open only to students in business courses.

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For courses in the Drama and Science of Language see Comparative Literature and Philology.

COURSES FOR GRADUATES

101. INTRODUCTION TO MIDDLE HIGH GERMAN.—Open to seniors who have had German 12 or 24. *I.; M., W., F.; 8; (3).* Assistant Professor BROOKS.

102. OLD HIGH GERMAN.—Outline of Grammar, translation of texts, relation of Old to Middle High German, and to the other dialects. *II.; Tu., Th.; 8; (2).* Assistant Professor BROOKS.

Required: German 101.

103. SEMINARY IN MODERN GERMAN LITERATURE.—Open to seniors who are specializing in German. Some literary movement or group of authors is studied, and the reports presented may be revised and offered as theses. *I. or II.; (2).* Professor RHOADES and Assistant Professor MEYER.

GOVERNMENT, (SCIENCE OF)

1. POLITICAL INSTITUTIONS.—The fundamental principles of politics, comparative study of the political systems of the United States and the leading countries of Europe, with special reference to their historical development and practical operation. *I., II.; M., W., F.; 4; (3).* Mr. .....

2. ADMINISTRATION.—This course deals primarily with the administrative functions of government. The administrative systems of the United States, England, France and Germany. *I.; Tu., Th.; 4; (2).* Mr. .....

3. CITY GOVERNMENT.—A study of municipal organization and methods of administration in the United States and the principal countries of Europe. *II.; M., W., F.; 3; (3).* Mr. .....

4. COMPARATIVE CONSTITUTIONS.—A study of the fundamental political institutions of the United States, England, France, Switzerland, and Germany, as seen in their constitutional systems. *I.; Tu., Th.; 3; (2).* Mr. .....

Required: Government 1.

5. COMPARATIVE ADMINISTRATION.—The appointment, qualifications, legal relations and duties of public officers, with forms and methods of administrative action, and the legislative and judicial control of administration.

Required: Government 1.

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6. History of Diplomacy.—A study of the development of international relations, as manifested in treaties, with special reference to the United States. Mr. .....

7. Government of Illinois.—An historical examination of the development of government in the state of Illinois. *I.; Tu., Th.; 8; (2).* Mr. .....

Political Ethics, Historical and Applied.—The ethics of social organization; theories of the nature of the state, including views of the state of nature, of natural law and natural right; rights and duties in relation to social institutions; international rights and duties; the ethics of diplomacy. *I.; Tu., Th.; 3; (2).* Professor Daniels.

This course must be taken as Philosophy 9.

GREEK

Professor Moss, Dr. Neville.

Courses 1 to 4, inclusive, are designed to meet the needs of students who cannot present Greek for entrance, and yet wish to study the language. The announcement of authors is tentative, and may be changed as the progress of the classes requires.

1. Grammar and Reader.—*I.; M., Tu., W., Th.; 4; (4).* Dr. Neville.

2. Grammar and Reader.—*II.; M., Tu., W., Th.; 4; (4).* Dr. Neville.

Required: Greek 1.

3. Xenophon's Anabasis, with selections from the narrative parts of Thucydides. *I.; Tu., W., Th., F.; 3; (4).* Professor Moss.

Required: Greek 2.

4. Homer.—Odyssey.—Selections. *II.; Tu., W., Th., F.: 3; (4).* Professor Moss.

Required: Greek 3.

5. Herodotus.—Greek prose composition. *I.; M., Tu., W., Th.; 6; (4).* Professor Moss.

Required: Entrance credits.

6. Andocides and Lysias.—Greek prose composition. *II.; M., Tu., W., Th.; 6; (4).* Professor Moss.

Required: Greek 5.

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7. XENOPHON.—Memorabilia. *I.; M., W., Th., F.; 2; (4).* Dr. NEVILLE.

Required: Greek 6.

8. PLATO.—One or more complete dialogs, and selections. *II.; M., W., Th., F.; 1; (4).* Professor Moss.

Required: Greek 7.

9. GREEK ORATORY.—*I.; M., W., F.; 2; (3).* Professor Moss.

Required: Greek 8.

10. GREEK TRAGEDY.—*I.; Tu., Th.; 2; (2).* Professor Moss.

Required: Greek 8.

11. HOMER.—The Iliad. *II.; M., W., F.; 4; (3).* Professor Moss.

Required: Greek 8.

12. THUCYDIDES.—*II.; Tu., Th.; 4; (2).* Professor Moss.

Required: Greek 8.

13. NEW TESTAMENT GREEK.—*II.; Tu., Th.; 4; (2).* Professor Moss.

Required: Greek 4.

14. GREEK LITERATURE.—Lectures and prescribed readings from English translations. *I.; Tu., Th.; 4; (2).* Professor Moss.

(Open to any students in the University, above freshman year.)

See also courses in Comparative Literature and Philology.

COURSE FOR GRADUATES

101. GREEK ORATORY.—Professor Moss.

HISTORY

1. MEDIAEVAL AND MODERN EUROPEAN HISTORY.—Elementary, introductory course. *I., II.; M., W., F.; section A, 1; section B, 3; section D, 7; Tu., Th., F.; section C, 4; (3).* Professor GREENE, Dr. SCHOOLCRAFT, Mr. ALVORD.

2. HISTORICAL INTRODUCTION TO CONTEMPORARY POLITICS.—The political history of the nineteenth century. The first semester is devoted to the political history of the United States, and the second to that of Europe. The work of either semester may be taken separately. *I., II.; Tu., Th.; 2; (2).* Professor GREENE.

The first semester is not open to students who are taking, or have taken, History 3.

3. AMERICAN HISTORY.— The origin and growth of the nation from the beginning of English colonization in America to the close

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of the reconstruction period. The work of either semester may be taken separately. *I., II.; daily; 1; (5).* Professor GREENE.

Required: History 1, 2, or 11; or, for juniors and seniors in the Colleges of Engineering, Science, and Agriculture, any course in Economics or Government.

4. ENGLISH CONSTITUTIONAL HISTORY.—In this study of the growth of English constitution, some attention is also given to the origins of legal institutions. The course is therefore adapted to the needs of students who expect to follow the profession of law. *I., II.; M., W., F.; 3; (3).* Dr. SCHOOLCRAFT.

Required: History 1 or an equivalent.

5. THE HISTORY OF GREECE.—*I., II.; M., W., F.; 2; (3).* Mr. ALVORD.

Required: One year of college work.

6. THE HISTORY OF ROME.—*I., II.; M., W., F.; 2; (3).* Mr. ALVORD. (Not given in 1903-04. Courses 5 and 6 will be given in alternate years).

Required: One year of college work.

7. THE REVOLUTIONARY ERA IN EUROPE, 1763-1815.—*II.; M., W., F.; 4; (3).* Dr. SCHOOLCRAFT.

Required: History 1. (Not given in 1903-04).

8. THE COLONIAL INTERESTS AND COLONIAL POLICIES OF THE EUROPEAN POWERS.—Special attention will be given to the nineteenth century. *II.; M., W.; 4; (3).* Professor GREENE.

Required: History 1. (Not given in 1903-04).

9. THE PERIOD OF THE ITALIAN RENAISSANCE.—*I.; Tu., Th.; 7; (3).* Mr. ALVORD.

Required: History 1.

10. THE DEVELOPMENT OF THE BRITISH COLONIAL EMPIRE.—*I.; M., W., F.; 2; (3).* Dr. SCHOOLCRAFT.

Required: History 1 or 11, or Economics 7.

11. ENGLISH HISTORY.—A general course in the history of England from the migration until 1815. *II.; M., Tu., Th., F.; 7; (4).* Dr. SCHOOLCRAFT.

This course is not open to students who have entrance credit for advanced work in English history.

12. GERMAN HISTORY, 1648-1871.—Special attention will be given to the rise of Prussia and the establishment of the New German Empire. *II.; M., W., F.; 2; (3).* Dr. SCHOOLCRAFT.

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COURSES FOR GRADUATES

101. AMERICAN HISTORY.—Studies in the development of the West. (Not given in 1903-04.) Professor GREENE.

102. ENGLISH HISTORY.—Studies in the period of the Puritan Revolution. *I., II.; Tu., Th.; 2; (2).* Dr. SCHOOLCRAFT.

103. SEMINARY IN AMERICAN HISTORY.—Training in historical research. *I., II.; arrange time; (for undergraduate students, 2; for graduates, 2 or more, at the option of the student and the instructor).* Professor GREENE.

104. AMERICAN HISTORY, 1860-1876.—Civil War and Reconstruction. *I.; M., W., F.; 5; (3).* Professor GREENE.

Courses 101 to 104, though primarily for graduates, may also be taken by seniors of high standing who have had suitable introductory courses.

HORTICULTURE

Professor BLAIR, Professor BURRILL, Mr. LLOYD, Mr. CRANDALL, Mr. BEAL.

1. PRINCIPLES OF FRUIT GROWING.—This course, which is designed for students in the College of Agriculture, deals with the fundamental principles of fruit culture. It embraces a study of location with reference to climate and markets, planting, soil treatment, pruning, protection from insects and diseases, harvesting and marketing. It is advised that Botany 1 or 11 be taken before or contemporaneously with this course. Recitations, reference readings, and practical exercises. *I.; Recitations, M., W., F.; 6; Laboratory, Tu., Th.; 6, 7; (5).* Mr. LLOYD.

2. SMALL FRUIT CULTURE.—A study of the strawberry, raspberry, blackberry, dewberry, currant, gooseberry, cranberry, and juneberry; each studied with reference to history, importance and extent of cultivation, soil, location, fertilizers, propagation, planting, tillage, pruning, insect enemies, diseases, varieties, harvesting, marketing, profits. Recitations and reference readings, with occasional practical exercises. *II.; Tu., Th.; 1; (2).* Mr. LLOYD.

3. VEGETABLE GARDENING.—An introductory course, including a study of the general principles of vegetable gardening and a brief consideration of the culture requirements of each of the common vegetables. Special attention is given to the home garden. *II.; M., W., F.; 1; (3).* Mr. LLOYD.

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4. PLANT HOUSES.—The construction and management of plant houses, with especial reference to the growing of vegetables under glass. Text-book and laboratory work. *I.; Recitations, Tu., Th.; 1; Laboratory, M., W., F.; 1, 2; (5).* Mr. BEAL.

5. PLANT PROPAGATION.—Grafting, budding, layering, making cuttings, pollination, seedage, etc. Text-book and laboratory work. *I.; second half; Recitations; section A, M., W.; 8; section B, Tu., Th.; 8; Laboratory; section A, Tu., Th., S.; 3, 4; section B, M., W., F.; 6, 7; (2½).* Mr. BEAL.

6. NURSERY METHODS.—A study of some details of nursery management and their relation to horticulture in general. Lectures and reference readings. *II.; first half; daily; 8; (2½).* Mr. CRANDALL.

Required: Horticulture 1, 5; Entomology 4.

7. SPRAYING.—The theory and practice of spraying plants, embracing a study of materials and methods employed in the combating of insects and fungous diseases. Recitations, reference readings, and laboratory work. *II.; second half; Recitations, Tu., Th.; 6; Laboratory, M., W., F.; 6, 7; (2½).* Mr. LLOYD.

Required: Horticulture 1; Entomology 4; Chemistry 1.

8. ORCHARDING.—A comprehensive study of pomaceous fruits: apple, pear, quince; drupaceous or stone fruits: plum, cherry, peach, nectarine, apricot. Each fruit studied with reference to the points enumerated under 2, above. Lectures, text-books, and laboratory work. *II.; Recitations, M., W., F.; 6; Laboratory, Tu., Th.; 6, 7; (5).* Professor BLAIR.

Required: Horticulture 1; Botany 1 or 11.

9. FORESTRY.—This course embraces a study of forest trees and their natural uses, their distribution, and their artificial production. The relation of forest and climate are studied, and the general topics of forestry legislation and economy are discussed. *II.; Tu., Th.; 4; (2).* Professor BURRILL.

Required: Botany 1 or 11.

10. LANDSCAPE GARDENING.—Ornamental and landscape gardening, with special reference to the beautifying of home surroundings. Lectures illustrated by means of lantern slides and charts, recitations, reference readings, and practical exercises. *II.; M., W., F.; 4; (3).* Professor BLAIR.

Required: Two years of University work, or special preparation.

11. ECONOMIC BOTANY.—Useful plants and plant products.

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Lectures and assigned readings. *I.; Tu., Th.; 3; (2).* Professor BURRILL.

Required: Regular admission; Botany 1 or 11.

12. EVOLUTION OF CULTIVATED PLANTS.—Comprising a study of organic evolution and the modification of plants by domestication. *I.; second half; daily; 3; (2½).* Mr. CRANDALL.

Required: Regular admission; two years of University work, including Thremmatology.

13. VITICULTURE.—A comprehensive study of the grape and its products. *I.; second half; daily; 5; (2½).* Mr. CRANDALL.

Required: Horticulture 1, 5.

14. NUT CULTURE.—The cultivation and management of nut-bearing trees for commercial purposes. *II.; first half; daily; 6; (2½).* Mr. CRANDALL.

Required: Horticulture 1, 5.

15. COMMERCIAL FLORICULTURE.—A study of the growing of cut flowers and decorative plants. Recitations and practical exercises in the greenhouse. *II.; daily; 3; (5).* Mr. BEAL.

Required: Horticulture 4, 5; Botany 2.

16. GENERAL HORTICULTURE.—For students not registered in the College of Agriculture. A course covering the general principles and processes of fruit-growing, gardening, floriculture, and ornamental planting. *I.; daily; 2; (5).* Professor BLAIR, Mr. LLOYD, and Mr. BEAL.

17. COMMERCIAL HORTICULTURE.—A course giving practical training for those students intending to follow horticulture as a business. Work in houses, orchards, and gardens—suited to ability and requirements of each student. Special permission required for admission into this course. *I., II.; arrange hours; (5-20).* Mr. LLOYD, Mr. CRANDALL, Mr. BEAL.

18. EXPERIMENTAL HORTICULTURE.—A course for those intending to engage in professional horticulture or experiment station work. For advanced students. *I.; daily; 1; (5).* Professor BLAIR, Mr. CRANDALL, Mr. LLOYD.

Required: Regular admission; twenty hours' work in horticulture.

19. AMATEUR FLORICULTURE.—A study of window gardening and the growing of flowers on the home grounds, including the culture of roses and flowering shrubs. Recitations and practical exercises. *I., II.; Th., Sat.; 2; (2).* Mr. BEAL.

Required: Botany 1 or 11.

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20. MARKET GARDENING.—The application of the principles of vegetable gardening to operations on a commercial scale. Special attention is given to the preparation of vegetables for market. Lectures, reference readings and practical exercises. *II.; second half and summer vacation; arrange time; (2½-5).* Mr. LLOYD.

Required: Horticulture 3.

21. SPECIAL VEGETABLE CROPS.—In this course the work of each student is largely individual, being an exhaustive study of some vegetable or groups of vegetables from a horticultural standpoint. Reference readings and field experiments. *II.; second half and summer vacation; arrange time; (2½-5).* Mr. LLOYD.

Required: Horticulture 3.

22. SPECIAL INVESTIGATION AND THESIS WORK.—Required of candidates for graduation. *I., II.; arrange time; (5-10).* Professor BLAIR, Professor BURRILL, Mr. LLOYD, Mr. CRANDALL.

COURSES FOR GRADUATES

101. POMOLOGY.—Special studies of orchard fruits. *Arrange time.* Professor BLAIR.

102. POMOLOGY.—Special studies of grapes, nuts, and other fruits. *Arrange time.* Mr. CRANDALL.

103. OLERICULTURE.—Studies of special groups of vegetables. Mr. LLOYD.

HOUSEHOLD SCIENCE

Professor BEVIER and Miss BEATTY.

1. PRINCIPLES OF THE SELECTION AND PREPARATION OF FOOD.—The nature and uses of food, its chemical composition, and the changes effected by heat, cold or fermentation. Practical illustrations of the principles of selection are given by marketing expeditions. Some of the processes of the manufacture of food are considered, as well as the combinations of different kinds. *Knight's Food and Its Functions. II.; M., W., F.; 1, 2; (3).* Miss BEATTY.

Required: Entrance credit in Physics; entrance credit in Chemistry, or Chemistry 1.

2. HOME ARCHITECTURE AND SANITATION.—The situation, surroundings, and construction of the house; the hygiene of the home; heating, lighting, ventilation, water supply, and drainage. Lectures on house planning, with exercises in making skeleton plans, and on

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sanitary plumbing and fixtures and internal drainage.* *I.; Tu., Th.; 2; (2).* Professor BEVIER.

3. ELEMENTARY HOME DECORATION.—A continuation of course 2. Lectures† on the evolution of the house and the homes of primitive peoples, the theory of color and its applications in home decoration. The evolution of the home, some of the principles of home management and furnishings from a sanitary and artistic standpoint. *II.; Tu., Th.; 2; (2).* Professor BEVIER.

4. CHEMISTRY OF FOOD AND NUTRITION.—Food and nutrition from the standpoint of sanitary and physiological chemistry. Investigations in the study of yeasts; household applications of bacteriology; dietaries adapted to different ages, occupations, and conditions. *Richard and Woodman's Air, Water, and Food; Halliburton's Essentials of Chemical Physiology; Government Bulletins. I.; M., W.; 3, 4; Tu., Th., F.; 3; (5).* Professor BEVIER.

Required: Bot. 5; Chem. 1, 3b, 4, 5c, 20; 5 hours in Botany or Zoology.

5. DIETETICS AND HOUSEHOLD MANAGEMENT.—The topics considered are: (a) The principles of diet; the relation of food to health; the influence of age, sex, and occupation; the dietic treatment of certain diseases; principles of home nursing. (b) The organization and care of the household; the processes involved in the cleaning of metals, woods, and fabrics; the use of disinfectants. *II.; M., W., F.; 5; (3).* Miss BEATTY.

Required: Household Science 1, 6.

6. ECONOMIC USES OF FOOD.—This course is a continuation of course 1. Emphasis is put upon the economic side of the food question. The uses and applications of preservatives are considered. *I.; M., W., F.; 1, 2; (3).* Miss BEATTY.

Required: Household Science 1.

7. TEXTILES.—The development of primitive industries, production of fibers used in textile manufactures; properties of fibers, preparation, adulteration, manufacture. *I.; Tu.; 5; (1).* Miss BEATTY.

8. PERSONAL AND PUBLIC HYGIENE.—This course is intended to be a popular presentation of the results of late investigations in regard to food and sanitation. *II.; Tu.; 7; (1).* Professor BEVIER.

9. SEMINARY.—Reports and discussions upon assigned topics. For advanced students. *I., II.; W.; arrange time; (1).* Professor BEVIER.

* By Professors White and McLean.
† By Professors Ricker and Wells.

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ITALIAN

Professor FAIRFIELD, Miss JONES.

1. GRAMMAR AND READING.—Grandgent's Italian Grammar, reading of modern authors; Dante's Divina Commedia, outlines of Italian literature. *I., II.; M., W., F.; arrange time; (3).* Miss JONES.

LATIN

Professor BARTON, Dr. NEVILLE.

1. CICERO AND PLINY.—De Amicitia and De Senectute; composition based on the text; selections from Pliny's letters; Roman life in Pliny's time. Students offering nine credits in Latin for admission will take this course. *I., II.; M., Tu., W., Th.; 1; (4).* Dr. NEVILLE.

2. LIVY.—Selections from the XXI. and XXII. books. Latin composition based on the text. Noun and verb syntax, and facility in English expression are emphasized. *I.; M., Tu., W., F.; 2; (4).* Professor BARTON.

Students offering twelve credits in Latin for admission will take this course.

3. TERENCE.—Phormio, Roman comedy, Roman Life in Prose and Verse. Outlines of Roman Literature. *II.; M., Tu., W., F.; 2; (4).* Professor BARTON.

4. HORACE AND CATULLUS.—The odes of Horace and the lyrics of Catullus. *I.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2, 3.

5. HORACE AND TACITUS.—The Satires and Epistles of Horace. Especial reference to the private life of the Romans in the time of Augustus. The Agricola of Tacitus as an example of finished biography. *I.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2, 3. (Not given in 1903-04.)

6. PLAUTUS.—Five plays. The development of the Roman drama. *II.; Tu., W., Th., F.; 7; (4).* Professor BARTON.

Required: Latin 2, 3.

7. THE ROMAN HISTORIANS.—Readings from Cæsar, Sallust, Livy, Tacitus, and Suetonius. The course is devoted to a study of differences in style, and methods of treating historical themes. *I.; M., W., F.; 3; (3).* Dr. NEVILLE.

Required: Latin 2, 3. (Not given in 1903-04.)

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8. ROMAN SATIRE AND EPIGRAM.—Selections from Juvenal and Martial. Society in the first century. *I.; M., W., F.; 3; (3).* Dr. NEVILLE.

Required: Latin 2, 3. (Not given in 1903-04.)

9. TEACHERS' COURSE.—The purposes and methods of preparatory Latin instruction. *II.; M., W., F.; 3; (3).* Professor BARTON.

10. LATIN PROSE COMPOSITION.—Intended especially for students having the teaching of Latin in view. *I.; M., W., F.; 3; (3).* Professor BARTON.

11. THE ELEGIAC POETS.—Tibullus, Propertius, and Ovid. *I.; M., W., F.; 3; (3).* Dr. NEVILLE.

Required: Latin 2, 3.

12. LATIN LITERATURE IN ENGLISH.—A study of the masterpieces of Latin literature in their English translations. Open to all students except freshmen. *II.; M.; 8; (1).* Professor BARTON.

13. PRIVATE LIFE OF THE ROMANS.—Illustrated lectures and assigned readings. *II.; Th.; 8; (1).* Professor BARTON.

See also courses in Comparative Literature and Philology.

LAW

Professors SCOTT, PICKETT, DREW, HUGHES, Assistant Professor NORTHRUP and Mr. DENNIS.

*A. ELEMENTS OF JURISPRUDENCE.—The origin, development, and classification of law, followed by an introduction to the fundamental principles of the Common Law. Text-books, *Blackstone's Commentaries, Robinson's American Jurisprudence. I.; M., W., F.; 6; (3).* Mr. DENNIS.

B. ELEMENTS OF COMMERCIAL LAW.—The work of the first semester covers the main principles underlying the law of contracts. In the second semester these principles are studied in their application to the law of negotiable securities, railroads, and other common carriers, pledges and chattel mortgages, insurance and bankruptcy. *I., II.; Tu., Th.; 3; (2).* Professor PICKETT.

* Courses marked with asterisk (*) are elective for students of law. Courses A, 22, 23, 24, and 27, are open to students of the College of Literature and Arts without fee, and count for credit towards the Arts degree. Law A is open to first, second, and third year law students; the other elective courses are open to high grade students of the College of Law, of the second and third years only, and do not count for the degree of LL.B.

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C. Elements of Corporation Law.—A study of the legal principles involved in the organization and operation of the modern corporation, the constitutional and statutory limitations, both state and federal, and questions arising under inter-state comity. *II.; Tu., Th.; 8; (2).* Mr. Dennis.

D. Civil Law of the Spanish-American Colonies.—*I.; arrange time; (2).* Professor Scott.

Required: Law A, 27, Spanish 1.

1. Contracts.—Text-book, *Williston's Cases on Contracts. I., II.; M., W., F.; 3; (3).* Professor Pickett.

2. Torts.—Text-book, *Ames and Smith's Cases on Torts. I., II.; M., W.; 2; (2).* Professor Scott.

3. Real Property.—Text-book, *Gray's Cases on Property. I., II.; Tu., Th.; 1; (2).* Assistant Professor Northrup.

4. Pleadings.—Text-book, *Ames' Cases on Pleading. I., II.; Tu., Th.; 4; (2).* Professor Scott.

5. Criminal Law.—Text-book, *Beale's Cases on Criminal Law. II.; M., W., F.; 1; (3).* Professor Hughes.

6. Personal Property.—Text-book, *Gray's Cases on Property. I.; F.; 4; (1).* Assistant Professor Northrup.

6b. Analysis of Cases.—Text-book, *Wambaugh's Study of Cases. I.; W.; 4; (1).* Professor Drew.

7. Domestic Relations.—Text-book, *Smith's Cases on Law of Persons. I.; Tu., Th.; 1; (2).* Mr. Dennis.

8. Evidence.—Text-book, *Thayer's Cases on Evidence. I.; M., W.; 2; (2). II.; M., W.; 3; (2).* Professor Hughes.

9. Sales.—Text-book, *Williston's Cases on Sales. II.; M., W., F.; 3; (3).* Professor Scott.

10a. Real Property.—Text-book, *Gray's Cases on Property. I.; M., F.; 2; (2).* Assistant Professor Northrup.

11. Agency.—Text-book, *Wambaugh's Cases on Agency. II.; Tu., Th., F.; 2; (3).* Professor Drew.

12. Equity.—Text-book, *Ames' Cases on Equity. I., II.; Tu., Th.; 3; (2).* Professor Pickett.

13. Damages.—Text-book, *Beale's Cases on Damages. I.; Tu., Th.; 2; (2).* Professor Drew.

14. Bailments and Carriers.—Text-book, *McClain's Cases on Carriers. I.; W., F.; 1; (2).* Mr. Dennis.

18. Wills and Administration.—Text-book, *Gray's Cases on Property, Vol. IV. II.; M., W.; 1; (2).* Assistant Professor Northrup.

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10b. REAL PROPERTY.—Text-book, *Gray's Cases on Property. II.; W., F.; 2; (2).* Assistant Professor NORTHRUP.

15. BILLS AND NOTES.—Text-book, *Ames' Cases on Bills and Notes. I., II.; Tu., Th.; 4; (2).* Professor PICKETT.

16. TRUSTS.—Text-book, *Ames' Cases on Trusts. I.; M., W., F.; 3; (3).* Professor DREW.

17. PRIVATE CORPORATIONS.—Text-book, *Smith's Cases on Private Corporations. I.; M., W., F.; 2; (3).* Professor HUGHES.

19. PARTNERSHIP.—Text-book, *Ames' Cases on Partnership. I.; Tu., Th.; 3; (2).* Professor HUGHES.

20. EQUITY PLEADING.—(Consolidated with Pleadings, Law 4.)

21. SURETYSHIP AND MORTGAGES.—Text-books, *Ames' Cases on Suretyship; Kirchwhy's Cases on Mortgages. II.; M., Tu., W., Th.; 3; (4).* Professor DREW.

22. CONSTITUTIONAL LAW.—Text-book, *McClain's Cases on Constitutional Law. I.; II.; 2; (2).* Mr. DENNIS.

24. MUNICIPAL CORPORATIONS.—Text-book, *Smith's Cases on Municipal Corporations. II.; F.; 3; (1).* Professor HUGHES.

26. MOOT COURT.—*I., II.; Sat.; 9-12 a. m.* Mr. Justice HARKER.

*23. INTERNATIONAL LAW.—Text-book, *Scott's Cases on International Law. II.; M., W., F.; 4; (3).* Mr. DENNIS.

*25. PRACTICAL CONVEYANCING.—Text-book, *Illinois Statutes.* Assistant Professor NORTHRUP. (Not given in 1903-1904.)

*27. ROMAN LAW.—Text-book, *Sohm's Institutes of Roman Law. II.; M., W., F.; 6; (3).* Mr. DENNIS.

*28. INSURANCE.—Text-book, *Wambaugh's Cases on Insurance. I.; W., F.; 4; (2).* Professor PICKETT.

*29. ADMIRALTY.—Text-book, *Ames' Cases on Admiralty.* Professor SCOTT. (Not given in 1903-1904.)

*30. BANKRUPTCY.—Text-book, *Williston's Cases on Bankruptcy.* Professor PICKETT. (Not given in 1903-1904.)

*31. CONFLICT OF LAWS.—Text-book, *Beale's Cases on Conflict of Laws. II.; M., W.; 4; (2).* Professor SCOTT.

*32. QUASI-CONTRACTS.—Text-book, *Keener's Quasi-Contracts.* Assistant Professor NORTHRUP. (Not given in 1903-1904.)

* Courses marked with asterisk (*) are elective for students of law. Courses A, 22, 23, 24, and 27, are open to students of the College of Literature and Arts without fee, and count for credit towards the Arts degree. Law A is open to first, second, and third year law students; the other elective courses are open to high grade students of the College of Law, of the second and third years only, and do not count for the degree of LL.B.

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LIBRARY SCIENCE

Professor SHARP, Assistant Professor MUDGE, Miss MANN, Miss SIMPSON, Miss COLE, and Miss MOON.

1. ELEMENTARY LIBRARY ECONOMY.—Instruction follows the regular library routine. The work of the order department is taught by lectures and practice. American, English, French, and German trade bibliography is introduced. Instruction in the accession department is according to Dewey's Library School Rules. Lectures are given upon duplicates, exchanges, gifts, importing, copyright, and allied topics. The Dewey decimal classification is taught by classifying books. In the shelf department Dewey's Library School Rules is used and supplemented with lectures. Sample shelf-lists are made with both sheets and cards. Cataloging is taught according to Dewey's Library School Rules and Cutter's Rules for a Dictionary Catalog. After each lecture students are required to catalog independently a number of books, and to modify the rules to suit different types of libraries. Lectures, card catalogs and mechanical accessories. Library handwriting. *I., II.; daily; 2; (5).* Miss SIMPSON.

2. ELEMENTARY REFERENCE.—The aim of this course is to train students in method of research and to familiarize them with the principal reference books. Lessons are assigned on reference books considered in groups, such as indexes, dictionaries, encyclopedias, atlases, hand-books of history, hand-books of general information, quotations, statistics, etc. Reference lists are prepared for special classes and for literary societies, and the students have practical work in the reference department of the library. *I., II.; section A, Tu., Th.; section B, W., F.; 1; (2).* Assistant Professor MUDGE.

3. SELECTION OF BOOKS.—Lectures are given upon methods and principles of selection for different libraries and subjects, and typical books chosen to illustrate each subject are discussed in class. The Publishers' Weekly and various critical periodicals are used to give students familiarity with new books. Representative new books are examined and reviewed by each student and discussed in class with special reference to author and subject of each book, its special features, probable value in different types of libraries, and the extent to which it supplements or supersedes earlier books on the same subject. The work is continued as a part of Library 6. *I., II.; M.; 1; (2).* Assistant Professor MUDGE.

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4. ELEMENTARY LABORATORY COURSE.—The purpose of this work is to familiarize the students with the minor work of a library and to acquaint them with the books in the University library. Each student is given practical work in the mechanical preparation of books for the shelves, and in the copying of minor library records assigned as practice in library handwriting.

The care of the books in the stacks, including the reading of shelves, is assigned to the students, who are thus brought in contact with the books. *I.; section A, M., W.; section B, Tu., Th.; Lecture, F.; Laboratory, 3 periods per week; 4; (1). II.; daily; Lecture, F.; 4; Laboratory, 15 periods per week, 4, 5, 7 or 4, 7, 8; (5).* Miss MANN.

Required: Library 1, 2.

5. ADVANCED LIBRARY ECONOMY.—Advanced and comparative cataloging and classification. Problems in organizing and reorganizing libraries. The class discusses questions affecting the founding and government of libraries, library legislation, library architecture, library administration, and current problems in public and college library work. This course includes one hour of Library 14. *I., II.; M., Tu., W., Th.; 2; F.; 3; (5).* Professor SHARP.

Required: Library 4.

6. BIBLIOGRAPHY.—Lectures on the principles underlying selection of books by professors from different departments. These lectures are supplemented with class work and problems from the librarian's point of view. Students in this course take the bibliography of history and the social sciences (Econ. 40). *I., II.; Tu., Th.; 3; (4).* Professor SHARP and others.

7. HISTORY OF LIBRARIES.—The history of the leading ancient, mediæval, and modern libraries. The library movement in the United States. Libraries are studied by types and by countries, with particular attention to the relation between the social, intellectual, and political movements in each country and the growth of libraries. This course is supplemented with Library 14 in a study of library reports and other publications. *I.; W.; 3; (3).* Miss SIMPSON.

8. ADVANCED REFERENCE.—Advanced reference books, including important transactions of societies, periodicals, special indexes, and other publications of special value in reference work in a university library. Reports on current events. Emphasis is laid upon problems in difficult research work. This course is intended primarily

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for students who are preparing for college library positions, but may be elected by any one who has satisfactorily completed Elementary Reference. *I.; W.; 3; (2).* Assistant Professor MUDGE.

Required: Library 2.

9. BOOK-MAKING.—A brief history of writing, of the early forms of books, of the invention and spread of printing, of book illustration, and of the art and practice of binding. *II.; W.; 3; (3).* Professor SHARP.

10. ADVANCED APPRENTICE WORK.—This consists of independent technical work in the University library and of public library work in Champaign, averaging two hours a day through the year. Students revise class cataloging for review, classify and catalog new books, and have regular assignments at the reference desk. Each student is held accountable for the performance or supervision of some branch of work in the University library for one or two semesters. As a test of executive ability, each one is given several fourth year students as assistants. *I., II.; daily; Lecture, F.; 7; Laboratory, 9 periods per week; arrange time; (3).* Miss MANN.

Required: Library 4.

11. THESIS.—Each student is required to prepare a thesis for graduation. This must be on some library topic, and must represent original research. An original bibliography, instead of a thesis, may be presented upon the approval of the director. *I.; arrange time; (1). II.; arrange time; (3).* Professor SHARP.

12. GENERAL REFERENCE.—This course is offered to all students. It comprises lectures on the catalog, classification, the reference-room, the reading-room, and groups of books, such as indexes, dictionaries, encyclopedias, atlasses, hand-books of general information, hand-books of history, statistics, quotations, etc. *I.; M.; 6:30 p. m.; (1).* Assistant Professor MUDGE.

13. PUBLIC DOCUMENTS.—This course covers the study of federal, state, and municipal documents, together with the study of the formation of government as expressed in its publications. Documents are studied both for their value as reference books and for correct methods of cataloging. Methods of printing and distribution, and important indexes, both general and special, are considered. Practical reference questions are given, and a sample catalog is made illustrating the various principles. The rules followed in this work are compiled by each student. *I., II.; W.; 7-8; (2).* Miss MANN.

Required: Library 1, 2.

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14. LIBRARY SEMINARY.—Fourth and fifth year students meet together once a week to examine library publications and to consider them in their relation to library history, biography, and administration. Once a week the fourth year students alone meet to discuss such topics as library associations, library schools, library commissions, traveling libraries, home libraries, and principles underlying the relation of the library to the public. *I., II.; M., F.; 3; (2).* Professor SHARP.

MATERIALS OF COMMERCE*

1. AGRICULTURAL.—A study of the animals ,grains, fruits, vegetables, and forage crops entering the channels of trade, together with a sketch of their manufactured products and by-products. *I.; Tu., Th.; arrange time; (2).* (Given by several instructors.)

2. CHEMICAL.—Classification and review of the chemical industries, including related lines which depend for their success upon chemical processes, followed by a study in detail of typical industries. *I., II.; arrange time; (2).* Professor PARR.

Required: Chemistry 1.

3. ZOOLOGICAL.—A study of the origin and uses of economic products derived from the animal kingdom, aside from those ordinarily classed as agricultural, as the products of the fisheries (marine and fresh water), of fur-bearing animals, bees, the silk worm, etc. Injuries by insects to stored merchandise and other manufactured property. *I.; W., F.; 1, 2; (2).* Assistant Professor SMITH.

See also Botany 8 and Geology 2.

MATHEMATICS

Professor SHATTUCK, Associate Professor TOWNSEND, Assistant Professor SHORT, Mr. BRENKE, Mr. MILNE, Mr. COAR, Mr. PONZER, Mr. PROVINE, and Miss WHITE.

1. ADVANCED ALGEBRA.—This course is offered for those students who wish to cover in five hours of mathematical work the subject of college algebra and that of plane and spherical trigonometry (Math. 3). The course presupposes a thorough working knowledge of elementary algebra through simultaneous quadratics. The same subjects are considered as in course 2, but more briefly. *I.; last seven weeks; daily; 3; (2).* Mr. BRENKE.

* Open only to students in business courses.

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*2. Advanced Algebra.—This course is for those students who wish to cover in five hours of mathematical work the subject of college algebra and that of plane trigonometry (Math. 4).

The following topics are considered: Progressions, undetermined coefficients, binomial theorem, logarithms, permutations and combinations, probability, convergence of series (or determinants), and the theory of equations, with special reference to the solution of numerical equations of the third and fourth degree. *Sections A to L are for engineers, sections M to R are for students of the College of Science, and the College of Literature and Arts. I.; last eleven weeks; daily; section A, 6; section B, 4; section C, 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 4; section K, 2; section L, 7; section M, 2; section N, 1; section O, 4; section P, 7; section Q, 4; section R, 6; (3).* Assistant Professor Short, Mr. Milne, Mr. Coar, Mr. Ponzer, Mr. Provine, Miss White.

3. Plane and Spherical Trigonometry.—This course covers the same ground in plane trigonometry as course 4. In addition to the work outlined there, about four weeks are spent on the general principles and applications of spherical trigonometry. *I.; first eleven weeks; daily; 3; (3).* Mr. Brenke.

Required: Solid and Spherical Geometry.

4. Plane Trigonometry.†—Sections A to L are for engineers, sections M to R are for students of the College of Science, and the College of Literature and Arts. *I.; first seven weeks; daily; section A, 6; section B, 4; section C, 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 4; section K, 2; section L, 7; section M, 1; section N, 2; section O, 4; section P, 4; section Q, 6; section R, 7; (2).* Assistant Professor Short, Mr. Milne, Mr. Coar, Mr. Ponzer, Mr. Provine, Miss White.

Section S is taught on Tuesdays and Thursdays throughout the first semester, at the first hour, for students registered in the preliminary medical course.

6. Analytical Geometry.—The aim is to acquaint the student with analytical methods of investigation and to familiarize him with the general properties of conics, including a discussion of the general equation of the second degree and its geometrical interpretation. Special emphasis is placed upon the use of algebraic processes as a

* Two sections, N, Q, repeat the work in the second semester.

† Two sections, N, Q, repeat the work in the second semesters.

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ans of demonstrating geometrical properties of loci. To this is added a brief course on the analytical geometry of three dimensions, including co-ordinate systems in space, the relations of points, straight lines, and planes in space, as also the general properties of surfaces of second order. Sections A to L are for engineers, sections M, N are for students of the College of Science, and the College of Literature and Arts. *II.; daily; section A, 6; section B, 4; section C 2; section D, 3; section E, 6; section F, 1; section G, 3; section H, 7; section I, 1; section J, 4; section K, 2; section L, 7; section M, 1; section N, 4; (5).* Assistant Professor SHORT, Mr. MILNE, Mr. COAR, Mr. PONZER, Mr. PROVINE, and Miss WHITE.

Required: Mathematics 1, 3 or 2, 4.

7. DIFFERENTIAL CALCULUS FOR ENGINEERS.—Variables and functions; limits and infinitesimals; differentials and derivatives; differentiation of explicit functions, implicit functions, and functions of several variables; derivatives of higher orders; successive derivatives; developments in series; maxima and minima of functions; indeterminate forms; plane curves, tangents, and normals; asymptotes, singular points, and curve tracing; theory of envelopes, of curvature, of evolutes, and of involutes. *I.; section A, 1; section B, 1; section C, 6; section D, 7; section E, 7; section F, 1; section G, 6; section H, 2; (5).* Assistant Professor SHORT, Mr. PONZER, and Miss WHITE.

Required: Mathematics 6.

8a. DIFFERENTIAL AND INTEGRAL CALCULUS.—A general introduction to the principles of differential and integral calculus. *I.; 7; (5).* Associate Professor TOWNSEND.

Required: Mathematics 6.

8b. DIFFERENTIAL AND INTEGRAL CALCULUS (Advanced course).—A continuation of 8a. The application of calculus to geometry and mechanics, begun in 8a, is extended throughout the course. *I., II.; Tu., Th.; 2; (2).* Associate Professor TOWNSEND.

Required: Mathematics 8a.

9. INTEGRAL CALCULUS FOR ENGINEERS.—Elementary forms of integrations; integrals immediately reducible to the elementary forms; integration by rational transformations; integration of irrational algebraic differentials; integration of transcendent functions; definite integrals; successive integration; differentiation under the sign of integration; integration by means of differentiating known

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integrals; double integrals; triple and multiple integrals; product of two definite integrals.

Rectification and quadrature; the parabola, the ellipse, the cycloid, the Archimedean spiral, the logarithmic spiral, the limniscate, quadrature of surfaces of revolution and of surfaces in general; cubature of volumes, the sphere, the pyramid, the ellipsoid, any solid of revolution, and of volumes in general. *II.; Tu., W., Th., F.; section A, 1; section B, 1; section C, 6; section D, 7; section E, 7; section F, 1; section G, 6; section H, 2; (4).* Assistant Professor SHORT, Mr. PONZER, and Miss WHITE.

Required: Mathematics 7.

10. THEORY OF EQUATIONS.—A continuation of the theory of equations given in college algebra (Math. 1, 2). It is based on *Burnside and Panton's Theory of Equations, Part I. II.; M., W., F.; 7; (3).* Associate Professor TOWNSEND.

Required: Mathematics 2, 4 (or 1, 3), 6.

11. THEORY OF DETERMINANTS.—The general principles and properties of determinants, including determinants of special form and the functional determinants—Jacobians, Hessians, Wronskians. The application of determinants to the theory of equations, analytical geometry including linear transformation. *II.; Tu., Th.; 7; (2).* Mr. MILNE.

12. THEORY OF INVARIANTS.—The general development of the theory of invariants, both from the geometric and from the algebraic side. Applications of invariants to systems of conics and higher plane curves. *I.; M., W., F.; 7; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8b (or 9), 11.

13a. FUNCTIONS OF REAL VARIABLES.—The two courses in functions (13a, 13b) are a continuation of the work done in calculus (8a, 8b, or 7, 9). Under functions of real variables, considerable attention is given to the fundamental ideas of the analysis, including rational and irrational numbers, mengelehre, single and double limits and their application to questions of continuity of functions of one and two variables, uniform convergence of series, etc. The existence of derivatives, condensation of singularities, definite integrals, differentiation and integration of series are also discussed. *I., II.; M., W., F.; 8; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8a, 8b (or, 7, 9), 10.

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13b. FUNCTIONS OF A COMPLEX VARIABLE.—A general introduction to the theory of functions of a complex variable. The methods of Weierstrass and Riemann are followed. *I., II.; M., W., F.; 8; (3).* Associate Professor TOWNSEND. (Not given in 1903-04.)

Required: Mathematics 8a, 8b (or, 7, 9), 10.

14. METHOD OF LEAST SQUARES.—The fundamental principles of the subject. The following subjects are studied: Law of probability and error, adjustment of observations, precision of observations, independent and conditional observations, etc. *I.; Tu., Th.; 6; (2).* Mr. BRENKE.

Required: Mathematics 8a, or 9.

15. SEMINARY AND THESIS.—*I., II.; Tu., Th,; 8; (2).* Associate Professor TOWNSEND.

16. DIFFERENTIAL EQUATIONS.—For students in the courses of engineering and of mathematics and astronomy. It embraces the following topics: General linear equations with constant coefficients, special forms of differential equations of higher order, integration in series, etc. *I.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 8a, or 9.

17. ANALYTICAL GEOMETRY OF SPACE.—A general review of the position of the plane and the right line in space and the more general properties of surfaces of the second degree. The classification and special properties of quadratics, and a brief introduction to the theory of surfaces in general. *II.; M., W., F.; 2; (3).* Associate Professor TOWNSEND.

Required: Mathematics 8a (or 7), 11.

18. HIGHER PLANE CURVES.—This course includes the general theory of algebraic curves, together with the application of the theory of invariants to higher plane curves. Special study is made of curves of the third and fourth order. *II.; M., W., F.; 7; (3).* Associate Professor TOWNSEND.

Required: Mathematics 12.

20. CALCULUS OF VARIATIONS.—This course has for its aim merely to acquaint the student with those elements of the science which are most needed in the study of the higher subjects of mathematical astronomy and physics. *II.; M., W., F.; 4; (3).* Professor SHATTUCK.

Required: Mathematics 11, 16.

21. SPHERICAL HARMONICS.—This course is introduced by a short course of lectures and study of certain trigonometric series.

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Fourier's Theorem for developing any function of a variable in a series proceeding in sines and cosines of multiples of the variable is derived and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's, and Lamé's functions and their applications to astronomical and physical problems. *I.; M., W., F.; 6; (3).* Associate Professor TOWNSEND or Mr. BRENKE.

Required: Mathematics 11, 14, 16.

22. POTENTIAL FUNCTION.—The potential function is defined and its properties derived and discussed. The potential of various bodies, such as of wire, a spherical shell, a sphere, ellipsoid of revolution, etc., is computed. Poisson's and Laplace's Equations are derived and discussed. Green's propositions with kindred and similar subjects are considered. *II.; M., W., F.; 6; (3).* Associate Professor TOWNSEND or Mr. BRENKE.

Required: Mathematics 21.

23. MODERN GEOMETRY.—This course includes, in general, a consideration of homogeneous coördinates, duality, descriptive and metrical properties of curves, anharmonic ratios, homography, involution, projection, theory of correspondence, etc. *I.; M., W., F.; 7; (3).* Mr. COAR.

Required: Mathematics 8a or 7, 11.

24. ALGEBRAIC SURFACES.—In this course are considered the application of homogeneous coördinates and the theory of invariants to geometry of three dimensions, and also the general theory of surfaces, together with the special properties of surfaces of the third and fourth order. *II.; M., W., F.; 7; (3).* Mr. COAR.

Required: Mathematics 17, 18.

25. PARTIAL DIFFERENTIAL EQUATIONS.—It deals with the integration and determination of the integration constants of such partial differential equations as arise in the study of such subjects as the flow of heat, the vibration of strings, plates, etc., and electricity. *II.; Tu., Th.; 7; (2).* Associate Professor TOWNSEND.

Required: Mathematics 8a or 9, 16.

26. STATISTICAL ADJUSTMENTS.—A course in statistics, theoretical and applied. For the convenience of students, it is given in two parts, of which the first may be taken alone or in connection with the second. The two parts, when taken with zoology 12, or economics 23, may be counted as a five-hour course in mathematics.

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(a). Theory of Statistical Adjustments.—The general method of statistical investigation, the use and abuse of the arithmetical and the geometrical average, application of averages to tabulation, graphic methods of deducing the law of error, interpolation, and the application of the theory of probability to statistics. *II.; M., W., Th., F.; first 9 weeks; 2; (2).* Mr. MILNE.

Required: Mathematics 8a.

(b). Applications.—Applications of the principles developed in (a) to specific problems in economics, biological sciences, etc. *II.; M., W., Th., F.; last 9 weeks; 2; (2).* Mr. MILNE.

Required: Mathematics 8a, 26a.

COURSES FOR GRADUATES

Courses 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25 and 26 may be counted as graduate work.

MECHANICAL TECHNOLOGY

See General Engineering Drawing 1b, Civil Eng'g 24, Mech. Eng'g 1, 30, 31, and Ry. Eng'g 9.

MECHANICAL ENGINEERING

Professor BRECKENRIDGE, Assistant Professors GOODENOUGH, and SCHMIDT, Mr. CURTISS, Mr. JONES, Mr. WILSON, Mr. FRASER, Mr. VEIRS, Mr. SCROGGIN, Mr. SNODGRASS, Mr. GREENMAN.

1. SHOP PRACTICE.—In the shops the work, as far as possible, is carried along the same lines as in our leading commercial shops. The exercises are, in general, chosen from parts of machines under construction, and carefully graded to the skill of the student. Beginning with the care and use of the tools with which he is to work, the student is carried through the various operations of machine shop practice. Following is an outline of the work, that of the two semesters being subject to transposition.

(a) First Semester, Wood Shop.—Primary exercises relating to the care and use of tools, and a series of exercises preparatory to pattern making in joint work and turning.

Pattern and core box making, with special reference to molding.

Second Semester (b) Foundry and (c) Forge Shop.—One-half

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of this semester is devoted to instruction in the management of the cupola and molding, including the making of green and dry sand cores. One-half of the semester is devoted to instruction in forging and welding iron and steel. Special attention is given to tempering of lathe and planer tools, also to the case-hardening and annealing. *I., II.; alternates with G. E. D., 4 sections; 1, 2, 3, 6, 7, 8; (3).* Mr. CURTISS, Mr. WILSON, and Mr. JONES.

2. SHOP PRACTICE.—First Semester. Instruction in chipping, filing, and elementary machine work. Lectures.

Second Semester.—Instruction in the various operations of lathe, screw machine, planer, drill press, shaper, grinding machine, milling machine, boring mill, as well as fitting and bench work. Lectures. *I., II.; daily; 1, 2, 3, 6, 7, 8 (divides times with M. E. 4); (2½).* Mr. FRASER, Mr. SCROGGIN, Mr. GREENMAN.

3. POWER MEASUREMENT.—This is the beginning of the work in the mechanical engineering laboratory, and is intended for students taking the mechanical engineering course. A study is made of the use and construction of the steam engine indicator. The measurement of power developed by the steam engine under different conditions is made a prominent part of the work. The method of applying friction brakes and measuring transmitted power is also taken up. *II.; section A, Tu., 6, 7, 8; S., 1, 2, 3; section* A_2, *Th., 6, 7, 8; S., 1, 2, 3; section B, M., W., 6, 7, 8; section* B_2, *W., F., 6, 7, 8; (2).* Assistant Professor SCHMIDT, Mr. SNODGRASS.

Required: Mechanical Engineering 1, 2,; Math. 9.

4. ELEMENTS OF MACHINE DESIGN.—The basis of this work is found in *Klein's Elements of Machine Design.* A series of plates 26x40 inches is constructed, covering a wide range of machine parts. By means of a large number of practical examples, sufficient drill is obtained in using rational and empirical formulas to enable the student to make the calculations required when designing various parts of machines. Theoretical and practical problems relating to gearing are taken up and worked out in detail. Instruction in blue printing and duplicating is included in the course. *Kent's Mechanical Engineer's Pocket-book; also Unwin's Machine Design. I., II.; (divides time with M. E. 2); daily; 1, 2, 3, 6, 7, 8; (2½).* Mr. VEIRS.

Required: General Engineering Drawing 1, 2.

5. MECHANISM.—This course is a study of plane motion, following the methods of Reuleaux. It includes the determination of

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instantaneous centers and centrodes; determination of velocities of important points of familiar mechanisms; construction of acceleration diagrams; the transmission of motion in mechanisms by gearing, cams, links, etc.; analysis of difficult mechanisms. Particular attention is paid to problems relating to gearing, steam-engine mechanisms, governors, link motions, valve gears, and indicator reducing motions. *I.; section A, M., 6, 7, 8; W., F., 3; section B., M., 2, 3, 4; Tu., Th., 2; (3).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1a.

6. HEAT ENGINES.—The application of the theory of thermodynamics to gas and gasoline engines and hot air engines. A study of the modern forms of heat engines. *I.; Tu.; (1).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1; Physics 1, 3.

7. THERMODYNAMICS.—The fundamental principles underlying the transformation of heat into work, more especially as exemplified in the steam engine, are carefully studied. Considerable attention is paid to the solution of numerous examples, such as arise in steam, air, or gas engineering. Drill is given in the rapid and accurate use of standard steam tables. *I.; M., W., Th.; 1; (3).* Assistant Professor GOODENOUGH.

Required: Math. 9; Theoretical and Applied Mechanics 1 and 3; Physics 1, 3.

8. MECHANICS OF MACHINERY.—This is a study of the theoretical principles involved in the construction of hoisting apparatus, pumping engines, air compressors, fans, blowers, machinery for transmitting power, locomotives, pile drivers, and other machinery of this character. *II.; M., Tu., W., Th.; 1; (4).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 5, 7, 14.

9. ADVANCED DESIGNING.—The work in this course comes under two heads.

Original Design: This part of the course is intended more especially to develop and train the student's inventive ability. The work begins with simple problems and extends to more difficult designs as the student progresses. The machines are to be designed for accomplishing a certain prescribed work. Often but a single piece is handed the student, and a machine is required which will produce a given number of these pieces per hour.

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Advanced Design: This includes primarily the design of heavy machinery, such as punches, shears, presses, cranes, derricks, etc., machinery subjected to heavy and variable stresses. The design of attachments to existing machines, or the complete design of some machine that can be built in the shops, is often a part of this work.

A large amount of study of existing machines is required. The student is taught to consult the standard works on designing, such as *Unwin, Reuleaux, Klein, Bach's Maschinenelemente, and Richards. I.; Tu., Th.; 6, 7, 8; (2). II.; Tu., W., Th.; 6, 7, 8; (3).* Mr. FRASER.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 8, and 14.

10. ESTIMATES, SPECIFICATIONS, AND SUPERINTENDENCE.—Calculations and estimates are made as to the cost of machinery, power plants, boilers, chimneys, systems of piping, engines and their foundations, different methods of power transmission. Forms of contracts and specifications are studied. *II.; Tu.; 2, 3; (1).* Professor BRECKENRIDGE.

Required: Theoretical and Applied Mechanics 1, 2, 3.

12. ADVANCED MECHANICAL ENGINEERING LABORATORY.—This work is a continuation of the work begun in the junior year. Experiments are made with engines, pumps, motors, injectors, and boilers to determine under what conditions they may be expected to give a maximum efficiency. Tests of plants in the vicinity are made, of which carefully prepared reports are always required. The dynamometer car and the railway test car described under the equipment of the department give unexcelled opportunities for experimental railway engineering. Advanced constructive work in the shops is assigned to groups of students, in order to impress upon them the intimate relation existing between the designing room and the shop. *Carpenter's Experimental Engineering. I.; M., F.; 2, 3, 4; and 6, 7, 8; (4). II.; M., 2, 3, 4; F., 1, 2, 3; (1).* Professor BRECKENRIDGE, Assistant Professor SCHMIDT, and Mr. SNODGRASS.

Required: Theoretical and Applied Mechanics 1, 2, 3; Mechanical Engineering 1 to 7, 14.

13. MECHANICAL ENGINEERING LABORATORY.—This is a laboratory course for students in other departments of the College of Engineering. The student is taught to apply the indicator to different engines and to make the usual calculations of horse power and steam consumption as given by the diagrams. Correct forms of

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reducing motions are explained. The reading of indicator diagrams and valve setting is also taught. *II.; section E, M., 2, 3, 4; F., 6, 7, 8; section F, W., 2, 3, 4; F., 6, 7, 8; (2).* Assistant Professor SCHMIDT and Mr. SNODGRASS.

Required: Mechanical Engineering 1, 2; Math. 7, 9.

14. HIGH SPEED STEAM ENGINE.—In this course the relations between piston speed, expansion, and quiet running are carefully studied. The student is given the problem of designing an engine that will develop a prescribed maximum and minimum horse power and run smoothly at all loads within its range. Each part of a complete engine is designed, and detailed drawings are made and traced, so that each member of the class may have a complete set of blue prints. *Klein's High Speed Steam Engine. I.; Tu., Th., 2, 3, 4; W., 6, 7, 8; (3).* Professor BRECKENRIDGE.

Required: Mechanical Engineering 1 to 7, 23, 24; Theoretical and Applied Mechanics 1, 2.

16. STEAM ENGINES.—For students in other departments of the College of Engineering. A study of the details of steam engines. Elementary principles of transformation of heat into work. Laws of expansion of steam. The mechanics of the steam engine. Valves and valve gears. The indicator diagram, condensers, steam jackets, super-heaters, and compound engines. *Ripper's Steam Engine. I.; section C, Tu., Th.; 3; section D, M., W.; 1; sections E and F, Tu., Th.; 1; (2).* Mr. FRASER.

Required: Physics 1, 3; Mathematics 9.

17. STEAM BOILERS.—For students in other departments of the College of Engineering. Materials used in the construction of boilers. Proportions and strength of riveted joints. Incrustation, explosions, combustion, safety appliances, feed apparatus, boiler trials. *Peabody and Miller's Steam Boilers. II.; sections C and G, W.; 1; section D, Th.; 1; section E, F.; 1; section F, Tu.; 1; (1).* Mr. FRASER.

Required: Physics 1, 3; Mathematics 9; Chem. 1.

18. GRAPHICAL STATICS OF MECHANISM.—Fundamental principles. Graphical determination of the forces acting at different points in machines used for hoisting, crushing, punching, and transmitting motion, taking into account the resistances offered to motion by frictional resistances. Effect of sliding, rolling, and journal friction, chain friction, tooth friction, stiffness of ropes and belts. Graphical determination of efficiencies. Analysis of stresses in

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cranes and simple trusses. *Graphical Statics of Mechanism, Herrman-Smith. Hoskins' Graphic Statics. II.; section A, M., W.; 6, 7, 8; section B, M.; 2, 3, 4; Tu.; 6, 7, 8; (2).* Assistant Professor GOODENOUGH.

Required: Theoretical and Applied Mechanics 1, 2; Mechanical Engineering 5.

19. SEMINARY.—Work supplementary to other studies of the senior year. Presentation of papers on assigned subjects. Contributed papers on current topics. Discussion of and criticisms on new inventions. *I., II.; W.; 2, 3; (1).* Professor BRECKENRIDGE.

20. SHOP PRACTICE FOR SPECIAL STUDENTS.—This course is open to those entering as special students, as defined elsewhere under "Admission." The work will be arranged after consultation. The work done does not count for a credit for graduation in any of the technical courses. *Arrange time.* Mr. FRASER.

21. FORGE SHOP PRACTICE.—This course is designed for students taking the course in Agriculture. The work covers instruction in forging, such as will be of use to the practical farmer. The course may be started at the beginning or middle of either semester; *arrange time at 1, 2, 3, or 6, 7, 8; six hours a week; (2).* Mr. JONES.

22. WOOD SHOP PRACTICE.—This course is intended for students taking the course in Agriculture. Students should arrange with the instructor for nine hours' work each week. *I. or II.; 1, 2, 3, or 6, 7, 8; (3).* Mr. CURTISS.

23. STEAM ENGINES AND VALVE GEARS.—For students in Mechanical Engineering. A study of the mechanical features of the steam engine. The application of the Zeuner diagram to the solution of valve gear problems. Single and double valve gears and link motions. Governors of various types. Fly-wheels. Compound engines. Tangental pressure diagrams. Inertia of reciprocating parts. Balancing. *II.; section A, M.; 2; F.; 6; section B, Tu., F.; 2; (2).* Assistant Professor GOODENOUGH.

24. STEAM BOILERS.—For students in Mechanical Engineering. This course covers about the same ground as Mech. Eng'g 17. *I.; section A, M.; 3; section B, F.; 3; (1).* Mr. FRASER.

30. MACHINERY AND MANUFACTURING.—Construction, operation, and erection of "form changing machines." A study of machinery that transforms raw material into a finished product. Man-

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ufacture vs. building; hand labor vs. automatic machinery; the American system of interchangeable machine parts. *II.; M., W., F.; 4; (3).* Mr. FRASER.

31. GENERATION AND TRANSMISSION OF POWER.—Elementary principles of generation and transmission of power. Applications of power for purposes of agriculture, manufacturing, mining, and transportation on land and water. *II.; M., W., F.; (3).* Professor BRECKENRIDGE.

COURSES FOR GRADUATES

Primary

101. Advanced Machine Design.
102. Graphics and Kinematics.
103. Mill Engineering.
104. Steam Engineering.
105. Experimental Engineering.
106. Thermodynamics.
107. Pneumatics.
108. Hydraulic Machinery.
109. Mechanical Technology.
110. Translation of Technical Engineering Work.
111. Heat Engines and Gas Engineering.
112. Locomotive Engineering.
113. Mechanical Refrigeration.

Secondary

120. Any primary offered in the College of Engineering.

Primary subjects may be taken as secondary in any course for the master's degree in the College of Engineering.

121. Indexing and Classification of Engineering Literature.

MECHANICS, THEORETICAL AND APPLIED

Professor TALBOT, Assistant Professor MCLANE, Mr. SLOCUM, Mr. MITCHELL.

1a, b. ANALYTICAL MECHANICS.—The mechanics of engineering, rather than that of astronomy and physics, is here considered. Attention is given to fixing the fundamental concepts and demonstrating the general principles of equilibrium and motion and also to the application of principles and methods to numerous and varied engineering problems. Training in the statement of conditions and

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in the use of data is given. This subject requires a thorough working knowledge of the mathematics preceding it in the course.

Outline of the subject: Nature and measure of force; composition and resolution of forces; moments; conditions of equilibrium; resultant of systems of forces; center of gravity; moment of inertia; rectilinear and curvilinear motion, and the relation between such motion and the constraining and accelerating forces; dynamics of a rigid body; momentum and impact; work, energy, and power; mechanical advantage. *Johnson's Theoretical Mechanics. 1a, II.; M.; section A, 2; section B, 2; section C, 6; section B, 8; section E and H, 7; sections F and I, 1; section G, 3; section I, 1; (1). 1b, I.; first 14 weeks; daily; section A, 2; section B, 1; section C, 1; section D, 3; section E, 2; section F, 4; (4).* Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: For 1a, Mathematics 7; for 1b, Mathematics 9 and Theoretical and Applied Mechanics 1a.

2a, b. RESISTANCE OF MATERIALS.—In the treatment of this subject it is the aim to give the student a thorough training in the elementary principles of the mechanics of materials, to follow with such experiments and investigations in the materials laboratory as tend to verify the experimental laws, and to add such problems in ordinary engineering practice as will train the student in the use of his knowledge. Attention is also given to the quality and requirements for structural materials.

Outline of the subject: Elasticity of materials; stresses and strains; experimental laws; working strength for different materials; resistance of pipes and riveted joints; bending and resisting moment, shear, and elastic curve of cantilever, simple, restrained, and continuous beams; column formulas; torsion and shafts; maximum internal stresses in beams; fatigue of metals; working strength for repeated stresses; resilience; reliability of the common theory of flexure, as shown by actual experiment; design and strength of rolled and built beams and columns; specifications for materials and methods of testing. *Merriman's Mechanics of Materials. 2a, I.; last 4 weeks; Recitations daily; section A, 2; section B, 1; section C, 1; section D, 3; section E, 2; section F, 4; Laboratory, weekly; section A_1, S.; 1, 2; section A_2, S.; 3, 4; section B_1, Tu.; 7, 8; section B_2, W.; 3, 4; section C_1, M.; 6, 7; section C_2, Th.; 7, 8; section D_1, W.; 7, 8; section D_2, F.; 7, 8; section E_1, Tu.; 3, 4; section E_2, F.; 3, 4; section F_1, Tu.; 2, 3; section F_2,*

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Th.; 2, 3; (1). 2b, II.; first 7 weeks; Recitations Tu., W., Th., F.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 3; section F, 4; Laboratory weekly; section A_1, W.; 3, 4; section A_2, F.; 7, 8; section B_1, F.; 3, 4; section B_2, M.; 6, 7; section C_1, W.; 6, 7; section C_2, Th.; 6, 7; section D_1, Tu.; 6, 7; section D_2, S.; 1, 2; section E_1, M.; 2, 3; section E_2, S.; 3, 4; section F_1, Tu.; 2, 3; section F_2, Th.; 2, 3; (2). Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: Mathematics 9; Theoretical and Applied Mechanics 1.

3. HYDRAULICS.—In hydraulics the instruction is by text-book and laboratory work. The laws of the pressure and the flow of water and its utilization as motive power are considered. Experimental work in the hydraulic laboratory gives training in the observation and measurement of pressure, velocity, and flow, and in the determination of experimental coefficients.

The subject covers the following: Weight and pressure of water; head; center of pressure; velocity and discharge through orifices, weirs, tubes, nozzles, pipes, conduits, canals, and rivers; measurement of pressure velocity, and discharge; meters and measurements; motors, turbines, and water wheels; water power. *Merriman's Hydraulics. II.; last 11 weeks; Recitations Tu., W., Th., F.; section A, 1; section B, 1; section C, 2; section D, 2; section E, 3; section F, 4; Laboratory, weekly; section A_1, W.; 3, 4; section A_2, F.; 7, 8; section B_1, F.; 3, 4; section B_2, M.; 6, 7; section C_1, W.; 6, 7; section C_2, Th.; 6, 7; section D_1, Tu.; 6, 7; section D_2, S.; 1, 2; section E_1, M.; 2, 3; section E_2, S.; 3, 4; section F_1, Tu.; 2, 3; section F_2, Th.; 2, 3; (3).* Professor TALBOT, Mr. SLOCUM, and Mr. MITCHELL.

Required: Mathematics 9; Theoretical and Applied Mechanics 2.

4. APPLIED MECHANICS.—To be taken instead of Analytical Mechanics. The course of study and topics studied will be nearly identical. *Wright's Mechanics. I.; M., Tu., W., Th.; 1; (4).* Assistant Professor MCLANE.

Required: Mathematics 6.

5. STRENGTH OF MATERIALS.—To be taken instead of Resistance of Materials. The course of study will be nearly the same, though somewhat simplified. *Merriman's Mechanics of Materials. II.; M.,*

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W., Th., F.; 3; Laboratory, M. or W.; 8 and 9; (4). Assistant Professor McLANE.

Required: Mathematics 6; Theoretical and Applied Mechanics 4.

6. ENGINEERING MATERIALS.—This course embraces weekly lectures on the properties and requirements for materials used in engineering construction, the effect of methods of manufacture upon the quality of the material, and the specifications and standard tests used to secure acceptable grades of material. *II.; M.; 1; (1).* Professor TALBOT.

Required: Registration in Theor. and App. Mechanics 2b.

COURSES FOR GRADUATES

101. Analytical Mechanics.
102. Resistance of Materials.
103. Hydraulics and Hydraulic Engineering.
104. Laboratory of Applied Mechanics.

METEOROLOGY AND MINERALOGY

See Geology 14; 5, 6, 7, 10.

MILITARY SCIENCE

Professor FECHET, Mr. DRAPER, Mr. DUFFY.

1. THEORETICAL INSTRUCTION.—Infantry drill regulations. For all male students. *II.; (1).* Professor FECHET.

2. PRACTICAL INSTRUCTION.—Infantry.—School of the soldier; company and battalion; evolutions of the regiment. Artillery.—School of the cannoneer and battery dismounted. Freshman and sophomore years. *I., II.; (1).* Professor FECHET.

3. THEORETICAL INSTRUCTION.—Sophomore, junior, and senior years; one hour each week. Drill regulations, military administration, field engineering, and elements of military science. This course is obligatory upon commissioned and non-commissioned officers, and open to others. Professor FECHET.

Authorized text-books.—*United States Army Drill Regulations; United States Army Regulations; Manual of Field Engineering (Beach); Elements of Military Science (Wagner).*

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MUNICIPAL AND SANITARY ENGINEERING

Professor TALBOT, Professor BAKER, Professor BURRILL, and Mr. SLOCUM.

1. ROAD ENGINEERING.—The value and importance of road improvement in country highways and the best means of securing it are considered, together with the principles and details of construction of earth, gravel, and macadam roads. In city streets, the methods of construction, cost, durability, and desirability of the various kinds of pavement, and the questions of grades, cross-sections, methods of assessment of cost, and methods of maintenance and cleaning are treated. *Baker's Roads and Pavements. II.; section C, Tu., Th.; 1; section D, W., F.; 1; (2).* Professor BAKER.

Required: Mathematics 4; General Engineering Drawing 1, 2; Civil Engineering 1, 2, 3, 4.

2. WATER SUPPLY ENGINEERING.—This subject is intended to cover the principal features of the construction of water works, including the tests and standards of purity of potable water; the choice of source of supply; the designing of the distribution system, pumps and pumping machinery, reservoirs, and stand-pipes. *Lectures; Turneaure's Public Water Supplies. I.; Tu., W., Th.; 4; Designing; section A, M.; 6, 7, 8; section B, F.; 6, 7, 8; (4).* Professor TALBOT and Mr. SLOCUM.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1; Mechanical Engineering 16.

3. SEWERAGE.—The design and methods of construction of sewerage systems of cities, including the following: Sanitary necessity of sewerage; water carriage systems, both separate and combined; surveys and general plans; hydraulics of sewers; relation of rainfall to storm water flow, and determination of size and capacity of sewers; house sewage and its removal; form, size, design, and construction of sewers and sewer appurtenances; modern methods of sewage disposal; estimates and specifications. *Lectures; Folwell's Sewerage. II.; W., F.; 4; Designing; section A, M.; 6, 7, 8; section B, F.; 6, 7, 8; (3).* Professor TALBOT and Mr. SLOCUM.

Required: Theoretical and Applied Mechanics 1, 3; Chemistry 1.

5a. BACTERIOLOGY.—For students in Municipal Engineering. This course includes the identification and classification of bacteria, and of allied organisms, their relations to health and to disease,

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the methods of separation and cultivation, and the methods of air and water analysis. The laboratory is furnished with sterilizers, culture ovens, microscopes, etc., and students have abundant opportunity to do practical work. This course follows Civil Engineering 4a. *I.; last 7 weeks; daily; 6, 2; (2).* Professor BURRILL.

6a, b. WATER PURIFICATION, SEWAGE DISPOSAL, AND GENERAL SANITATION.—This work includes the consideration of impurities in water supplies and the study of the methods and processes of their removal; the modern methods of sewage disposal by filtration, chemical precipitation, irrigation, etc., with a study of representative purification plants; garbage collection and disposal; sanitary restrictions and regulations and general sanitation. Lectures and seminary work. *6a, I.; M., F.; 4; (2). 6b, II.; Tu., W., Th.; 3; arrange for drafting period; (3).* Professor TALBOT.

Required: Municipal and Sanitary Engineering 2, 3, 5a; Chemistry 1, 3a.

COURSES FOR GRADUATES

Water Supply Engineering

101. Tanks, Stand-Pipes, and Reservoirs.

102. Sources and Requirements of Water Supply for a City and Removal of Impurities.

103. Water Works Management and Economics.

104. Pumps and Pumping.

105. General Water Works Construction.

106. Biological and Chemical Examination of Potable Water.

107. Description of Water Supply Systems.

Sewerage

111. Sewage Purification.

112. Sewage Disposal Works.

113. General Sewerage Design and Construction.

114. City Sanitation.

115. Description of Sewerage Systems.

Road Engineering

118. Economic Aspect of Good Roads and Pavements.

119. Construction of Roads and Pavements.

MISCELLANEOUS SUBJECTS

121. Critical Description of Engineering Construction.

122. Translation of Technical Engineering Work from French or German.

123. Any Primary in Civil Engineering.

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124. Any Primary in Theoretical and Applied Mechanics.

125. Any Primary in Mathematics, Mechanical Engineering or Electrical Engineering—Secondary.

126. Indexing of Municipal and Sanitary Engineering Literature in Engineering Periodicals.

MUSIC

Professor LAWRENCE, Professor FERNIE, Mrs. DANIELS, Miss MANN, Mr. BRENEMAN, Mrs. BRENEMAN, Mr. SCHWARTZ, Miss GLODERY.

1. HISTORY OF MUSIC.—Lectures on the development of Music, referring especially to the rise of Polyphony and dramatic music, the origin and progress of the Oratorio, the evolution of instruments and instrumental forms, and studies in the lives of composers. Assigned collateral readings. *I. and II.; (1½).* Mr. SCHWARTZ.

2. THEORY OF MUSIC.—Elementary Theory and Ear-training, Four Part Harmony, and Analysis. *I. and II.; (2).* Mr. SCHWARTZ.

3. ADVANCED HARMONY AND ANALYSIS.—*I., II.; (3½).* Mr. SCHWARTZ.

4. COUNTERPOINT, CANON, AND FUGUE.—*I., II.; (3).* Mr. SCHWARTZ.

5. GENERAL THEORY AND ANALYSIS OF FORM.—Free Composition. *I., II.; (2½).* Mr. SCHWARTZ.

NOTE.—5, I. may be taken with 4, II. if desired.

6. COURSE FOR THE PIANO.—*Preparatory.* This course covers three years' work and is required in fulfillment of the six credits prescribed for entrance to the School of Music. The work of each year counts two credits for entrance. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, principles of technique, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. Music used:

(a) First Year. National Graded Course. *Bk. I. or equivalent; Köhler Op. 151.* Miss MANN and Miss GLODERY.

(b) Second Year. *Köhler, Op. 50.* Herz' Scales and Exercises. *Loeschorn Op. 65, 66; Lemoine Op. 37; Bertini Op. 29, 32.* Miss MANN and Miss GLODERY.

(c) Third Year. *Czerny Op. 299; Bks. I., II.;* Czerny Octave Studies; Bach, Easiest Composition; *Heller Op. 45;* also easier sonatines and compositions by standard composers. Miss MANN and Miss GLODERY.

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7. *Collegiate.* First Year. Studies in development of technique: Czerny, Op. 299, Bks. 3, 4; Mayer, Octave Studies; Cramer, Etudes; Jensen, Etudes; Bach, Little Preludes and Fugues; sonatas of Haydn and Mozart; easier sonatas of Beethoven; Songs without Words, Mendelssohn; compositions (smaller works of Schubert, Raff, Grieg, Chaminade, Moszkowski, and others. *(6).* Professor LAWRENCE and Mrs. DANIELS.

8. Second Year. Daily technique: Czerny, Op. 740; Pacher, Octave Studies; Bach, Two and Three-Voice Inventions, and French Suites; Sonatas and other compositions of Scarlatti, Beethoven, Schubert, Schumann, Mendelssohn, Weber, Raff, Rubinstein, Saint Saens, Godard, MacDowell, and others. *(6).* Professor LAWRENCE and Mrs. DANIELS.

9. Third Year. Selections: Clementi, Gradus ad Parnassum; Moscheles, Op. 70; Kullak, Seven-Octave Studies, Bk. 2; Bach, English Suites and Well-Tempered Clavichord; Sonatas and concertos by Mendelssohn, Weber, Beethoven, Hummel, etc.; selections from works of Bach, Chopin, Schubert, Schumann, Brassin, Rubinstein, Liszt, Moszkowski, Scharwenka, and other modern composers. *(8).* Professor LAWRENCE and Mrs. DANIELS.

10. Fourth Year. Selections: Octave Studies; Clementi, Gradus, continued; Bach, Well-Tempered Clavichord, continued; Chopin, Etudes; Henselt, Etudes; Rubinstein, Etudes; Sonatas by Beethoven, and concertos and other compositions by the great masters, classic and romantic, both of the older and the more modern schools. *(9).* Professor LAWRENCE and Mrs. DANIELS.

11. COURSE FOR THE VOICE.—*Preparatory.* This course varies from one to three years, according to the ability of the student. The placing of the voice and proper position of the mouth and throat. Randegger's Singing. Fifty Concone Studies. Simple songs for rhythm, accent, and proper pronunciation of words. Two entrance credits each year. Mr. and Mrs. BRENEMAN.

12. *Collegiate.* First Year. Voice production, Randegger's singing continued. 25 and 15 Concone Studies, 40 Concone, Songs of Mendelssohn, Schubert, and those of good modern composers. *(6).* Professor FERNIE and Mr. BRENEMAN.

13. Second Year. Voice production. Viardot-Garcia's Hour of Study. Book 1 for technical work. Twenty-four Panofka for soprano and tenor, the Songs of German, French, and English com-

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posers, and simple selections from operas and oratorios. *(6).* Professor FERNIE and Mr. BRENEMAN.

14. Third Year: Voice production. Viardot-Garcia's Hour of Study, Book II. Bordigni's Thirty-six Studies for soprano or tenor, its equivalent, Sieber or Bordese for alto or bass. Selections from oratorios and from French, German, and Italian operas. Songs of considerable difficulty by German, English, French, and Italian composers. *(8).* Professor FERNIE.

15. Fourth Year. Voice production. Lütgen's Opera-vocalisen, Book II. Italian, French, German, and English songs of all standard composers. Solos and concerted works from the modern as well as the standard operas and oratorios. *(9).* Professor FERNIE.

16. COURSE FOR VIOLIN.—*Preparatory.* Sitt: Op. 31, No. 1. Schradieck's Scale and Arpeggio Studies commenced; Meerts Elementary Etudes; Sitt:, Double Stops, in part. Pieces by Weirs, Sitt, Reinecke, and Pleyel. Mr. SCHWARTZ.

17. *Collegiate.* First Year. Scales and Arpeggios in three Octaves; Sitt, Double Stops, completed. Kreutzer, David Violin School, Vol. II.; Sonatas by Handel and Schubert. Compositions by Dancla, Hauser, and Cui. *(6).* Mr. SCHWARTZ.

18. Second Year. Scales in octaves and thirds, arpeggios on dominant and diminished seventh chords; David School completed, Fiorillo Etudes, Mozart Sonatas, Concertos by Viotti, Spohr, and others; Concert pieces by Sitt, Spohr, Foote, and Raff. *(6).* Mr. SCHWARTZ.

19. Third Year. Special technical drill. Meerts Etudes, Rode Caprices, Easier Modern Concertos and Sonatas; Concert pieces by Vieutemps, Sarasate, Alard, and others. *(8).* Mr. SCHWARTZ.

20. Fourth Year. Selected Concert Etudes, Sonatas by Beethoven, Schumann, and Brahms; Various Modern and Classic Concertos. *(9).* Mr. SCHWARTZ.

NOTE.—Ensemble and orchestral work is required of all advanced students.

21. UNIVERSITY ORCHESTRA.—Two hours' rehearsal once a week throughout the year. *(2).* Professor LAWRENCE.

22. UNIVERSITY CHORAL SOCIETY.—One hour rehearsal once a week throughout the year. *(1).* Professor FERNIE.

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Sight-singing Classes are open to all University students, and Ear-training Classes to School of Music students.

A complete course in Public School Methods is offered to those desiring such work.

PALEONTOLOGY

See Geology 1b, 9.

PHILOSOPHY

Professor DANIELS.

1. LOGIC.—For the required credit in Philosophy, students may select either of the following courses:

a. The nature of judgment and inference. Emphasis is laid upon practice in division, definition, forms of syllogism, deductive and inductive fallacies. This course is recommended to students who are interested in psychology or philosophy. *I.; M., W., F.; 2; (3).* Professor DANIELS.

b. Special attention is given to fallacies and to the problems, grounds, and principles of induction. *II.; M., W., F.; section A, 3; B, 2; (3).* Professor DANIELS.

2. OUTLINES OF PHILOSOPHY.—A general introduction to the study of philosophy. *I.; M., W., F.; 1; (3).* Professor DANIELS.

3. ANCIENT AND MEDIAEVAL PHILOSOPHY.—A rapid survey of the development of speculative thought, beginning with the early Greek philosophers and continuing through the mediæval period. *I.; Tu., Th.; 2; (2).* Professor DANIELS.

4. MODERN PHILOSOPHY.—The formation and development of the problems and conceptions in philosophy from Descartes to the present time. Selections from the philosophical masterpieces of this period. Special emphasis is laid upon the philosophy of Kant. *II.; M., W., F.; 1; (3).* Professor DANIELS.

5. ADVANCED PHILOSOPHY.—The seventeenth century philosophy. A critical study of Descartes, Spinoza, and Leibnitz. *I.; Tu., Th.; 7; (2).* Professor DANIELS.

Required: Two semesters in Philosophy or Psychology.

7. HISTORY AND CRITICISM OF ETHICAL THEORIES.—A careful and historical examination of the various types of ethical theory.

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including rational, hedonistic, eudemonistic, esthetic, and evolutional ethics. *II.; Tu., Th.; 1; (2).* Professor DANIELS.

8. ESTHETICS.—A brief history and a critical study of the various theories of the beautiful. Lectures and assigned readings. *II.; Tu.; 8; (1).* Professor DANIELS.

Required: Two years of University work.

9. POLITICAL ETHICS, HISTORICAL AND APPLIED.—A study of various phases of thought concerning the ethics of social organizations; theories of the nature of the state, including views of the state of nature, of natural law and natural right. A discussion of rights and duties in relation to social institutions; international rights and duties; the ethics of diplomacy. *I.; Tu., Th.; 1; (2).* Professor DANIELS.

10. PHILOSOPHIC THOUGHT IN ENGLISH LITERATURE OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—Primarily for students who are specializing or taking major work in English, and open to senior and graduate students only. *I., II.; Th.; 8; (1).* Professor DANIELS.

11. PHILOSOPHY OF RELIGION.—The philosophical interpretation of religion, with reference to the value of a rational view of religious ideas. *I.; Tu.; 8; (1).* Professor DANIELS.

Required: Two years of University work.

COURSE FOR GRADUATES

101. THE PHILOSOPHY OF KANT.

PHYSICAL TRAINING

Director HUFF, Director CARPENTER, Mr. CONIBEAR, Mr. ARNOLD.

For Men

1. GYMNASIUM PRACTICE.—Two hours' class-work, or two hours' prescription exercises, each week. *Required of freshmen. Must be taken with course 3. I., II.; arrange time; (1).* Director HUFF and Mr. ARNOLD.

2. GYMNASIUM PRACTICE.—Two hours' class-work or two hours' prescription exercises. *With course 4. I., II.; arrange time; (1).* Mr. ARNOLD.

Required: Physical Training 1 and 3.

3. LECTURES.—Lectures upon bodily health, including such subjects as the bath, sleep, diet, ventilation, clothing, injuries from over-work and study, sedentation, tobacco, alcohol, improper pos-

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ture, etc. *Once a week. Freshmen are required to attend this course, together with course 1. I., II.; arrange time; (1).* Director HUFF.

4. LECTURES.—Muscular form and action, effects of exercise, causation of fatigue, breathlessness, coördination, automatism, deformities, etc. *Once a week in combination with course 2. I., II.; arrange time; (1).* Director HUFF.

Required: Physical Training 1 and 3.

5. THEORY OF PHYSICAL TRAINING.—For those preparing as instructors. Study of the systems of gymnastics; methods of teaching; class work; use of apparatus; effects on body; measurements; testing, prescription. *I., II.; arrange time; (1).* Mr. ARNOLD.

Required: Courses 2 and 4.

6. COMPETITIVE ATHLETICS.—History of games and sports; general training; special forms and methods of coaching for track, fencing, wrestling, boxing, base ball, foot ball, basket ball, etc. *I., II.; arrange time; (1).* Director HUFF, Mr. CONIBEAR, and Mr. ARNOLD.

Required: Physical Training 2 and 4.

For Women

7. PRACTICE.—Class and prescription exercises in the gymnasium and field. *Three hours a week throughout the year. (1). Required of freshmen. With course 9, 3 semester hours.* Miss CARPENTER.

8. PRACTICE.—*Three hours a week throughout the year. (1).* Miss CARPENTER.

Required: Physical Training 7, 9.

9. HYGIENE.—The same as Physiology 6, which see. *Required of freshmen. With course 7, 3 hours.* Professor KEMP.

PHYSICS

Professor CARMAN, Assistant Professor SAGER, Dr. WATSON, Mr. SCHULZ.

1. GENERAL PHYSICS.—Lectures with class-room demonstrations and recitations. This course is required of students in engineering, and is recommended to students doing major work in physics, chemistry, and mathematics. The laboratory course, Physics 3, is to be taken at the same time. *I., II.; Lectures, M., W.; 4;*

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Quiz, F.; 1, 2, 3 or 4; (2). Professor CARMAN, Dr. WATSON, and Mr. SCHULZ.

Required: Mathematics 3 or 4.

2a. GENERAL PHYSICS.—Lectures with class-room demonstrations, recitations, and laboratory exercises. This course is intended for students in general courses rather than for students in technical courses. *I., II.; Lectures, Tu., Th.; 4; Quiz, F.; 1 or 2, or an hour to be arranged; Laboratory, 1-3 or 2-4, Sat.; (4).* Professor CARMAN, Assistant Professor SAGER, Dr. WATSON, and Mr. SCHULZ.

Required: Mathematics 3 or 4.

3. INTRODUCTION TO PHYSICAL MEASUREMENTS.—Laboratory experiments running parallel with the lecture course, Physics 1. The experiments are quantitative, illustrative of lectures and preparatory to more advanced laboratory work. *I., II.; M., Tu., W. or Th.; 1-3 or 2-4; (2).* Professor CARMAN, Dr. WATSON, Mr. SCHULZ.

Required: Mathematics 3 or 4.

4. ELECTRICAL AND MAGNETIC MEASUREMENTS.—Recitations and laboratory. The course of recitations and lectures covers the elementary mathematical theory of electrostatics, magnetism, magnetic properties of iron, electrodynamics, and direct, alternating, and polyphase currents. In the laboratory the usual electrical and magnetic measurements are made, the work running parallel with the recitation work. *I.; Lecture, M., W.; 3; II.; Lecture, M.; 6; Th.; 1; Laboratory; arrange time; (4).* Assistant Professor SAGER.

The following laboratory courses are offered, to be taken preferably in connection with or following the corresponding theoretical or descriptive courses, 6a-6d:

5a. MECHANICS.—A course in exact measurements of mass, length, volume, density, time, and gravity, using balance, dividing engine, cathetometer, chronograph, etc. *I. or II.; arrange time; (2, 3 or 5).* Assistant Professor SAGER.

Required: Physics 1 or 2a and 3.

5b. LIGHT.—Measurements of indices of refraction and wave lengths, using the spectrometer with prisms and grating, the concave grating with its mounting; also the use of the optical bench in experiments in interference; photometric measurements and the use of the spectrum-photometer. *I. or II.; arrange time; (2, 3 or 5).* Assistant Professor SAGER.

Required: Physics 1 and 3, or 2a.

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5c. ELECTRICITY AND MAGNETISM.—A course of exact measurements of resistance, current, electromotive force, capacity, and magnetic quantities. *I. or II.; arrange time; (2, 3 or 5).* Assistant Professor SAGER.

Required: Physics 1 and 3, or 2a.

5d. HEAT.—Measurements of temperature, heat quantities, etc.; thermal properties of bodies, particularly of gases and vapors. *I. or II.; arrange time; (2, 3 or 5).* Assistant Professor SAGER.

Required: Physics 1 and 3, or 2a.

The following courses of recitations and lectures on the elementary mathematical theory of physics are offered. Physics 6a is designed to be the basis of all the advanced theoretical work. A knowledge of the methods of calculus is desired.

6a. MECHANICS AND GENERAL PROPERTIES OF MATTER.—An elementary consideration of kinematics, dynamics, statics, work and energy, together with gravitational attraction and potential. *I.; M., W., F.; 2; (3).* Assistant Professor SAGER.

Required: Physics 1 or 2a. Mathematics 9 or 8a desired.

6b. LIGHT.—*Preston's Light. II.; Tu., Th.; 2; (2).* Assistant Professor SAGER.

Required: Physics 6a; Mathematics 9 or 8a.

6c. ELECTRICITY AND MAGNETISM.—*J. J. Thomson's Elementary Mathematical Theory. II.; M., W., F.; (3).* Assistant Professor SAGER.

Required: Physics 6a; Mathematics 9 or 8a.

6d. HEAT.—*Preston's Heat. I.; Tu., Th.; (2)* Professor CARMAN and Assistant Professor SAGER.

Required: Mathematics 9 or 8a.

7. INVESTIGATION OF SPECIAL PROBLEMS.—An advanced course in the laboratory or in design and calculation, in continuation of Physics 4, 5 or 6. A special topic is assigned and worked out with the advice and direction of the professor. The repeating of some classic investigation may be assigned. Among the recent problems were the following designs of pieces of apparatus which were also constructed and calibrated in the department: An inductance without iron, variable continuously from zero to 1.2 henry; an inductor dynamo machine giving a sine wave; an exact potentiometer to measure to 150 volts and also to 150 amperes; two testing tables for

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standardizing ammeters and voltmeters. *I., II.; arrange time; (3) or (5).* Professor CARMAN and Assistant Professor SAGER.

Required: Two semesters of physics in advance of Physics 1 and 3.

8. MATHEMATICAL PHYSICS.—Lectures and recitations on special topics in theoretical physics. *I., II.; arrange time; (3).* Professor CARMAN.

Required: Physics 6a.

10. INVESTIGATION AND THESIS.—*I., II.; arrange time; (3) or (5).* Professor CARMAN and Assistant Professor SAGER.

COURSES FOR GRADUATES

101. Advanced Physical Measurements and Investigation.

102. Mathematical Physics.

103. Mathematical Theory of Electricity and Magnetism for Engineers.

PHYSIOLOGY

Professor KEMP, Mr. STANLEY.

1. MAJOR COURSE.—The work begins with a comprehensive study of the microscopic structure of the tissues in general, and later includes the structure of the organs in particular, with special relation to their functions. The course, together with courses in chemistry recommended for prospective medical students, will complete a thorough study of physiological chemistry, so far as it relates to the normal composition and functions of the organs and excretions. Frequent demonstrations in experimental physiology are given before the class, and the student is required to perform a number of such experiments under the immediate direction of the instructor. In addition, the students, working in small groups, perform assigned experiments. *I., II.; daily; 3, 4; (5).* Professor KEMP.

Required: Physics 1, 3; Chemistry 1, 2, 3a, 5a, 9, 9c; Zoology 2.

2. ADVANCED COURSE.—Continuation of Physiology 1 through a second year. This course is designed for students who wish to get as thorough a training as possible for the study of medicine, and who can afford to take the full science course at the University leading to the B.S. degree. Lectures, assigned reading, and experiments in the laboratory conducted by the students under the supervision of the instructor. *I., II.; daily; 3, 4; (5).* Professor KEMP.

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3. INVESTIGATION AND THESIS.—Every facility and encouragement, so far as the resources of the laboratory permit, are offered to those prepared to avail themselves of these for researches leading to theses for the bachelor's, master's, or doctor's degree, or for carrying on original work for publication.

4. MINOR COURSE.—Especial emphasis is laid upon those facts that serve as a basis for practical hygiene, and for helping students to teach physiology in high schools. Lecture demonstrations, recitations, and laboratory work. Students who have had chemistry and zoology in high schools may be admitted to the course at the option of the instructor. *II.; daily; 7, 8; (5).* Professor KEMP.

Required: Chemistry 1; Zoölogy 10.

5. SPECIAL PHYSIOLOGY.—There are here included the following lines of laboratory work, any one or more of which may be pursued independently of the others: (a) The physiology of foods, and digestion; (b) the blood, circulation, and respiration; (c) the excretions, especially urine analysis; (d) general physiology of nerve and muscle; (e) advanced vertebrate, especially human, histology. This course may be taken after physiology 4, and is recommended for those who wish to work a year in physiology without having the requirements to enter the class in physiology 1. It may also be taken for less than five credits. Work to be arranged after consultation with Professor KEMP.

6. HYGIENE.—This course is offered to both men and women, and must be taken by young women who take physical training for credit. The course deals with those practical hygienic problems of everyday life that are wholly or in large part under the control of each individual. *I.; M.; 9; (1).* Professor KEMP.

PHYSIOGRAPHY

See Geology 8.

PSYCHOLOGY.

Professor DEXTER and Assistant Professor COLVIN.

1. ELEMENTARY PSYCHOLOGY.—This course is intended for beginners in psychology. James' Psychology is used as a text. *I.; M., W., F.; 2; (3).* Assistant Professor COLVIN.

Required: At least one year of University work.

2. INTRODUCTION TO PSYCHOLOGY.—The object of this course is to give the student a complete though tentative system of psy-

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chology based upon the results of experimental investigation. *II.; M., W., F.; 2; (3).* Assistant Professor COLVIN.

Required: At least one year of University work.

3. EXPERIMENTAL PSYCHOLOGY.—The object of this course is to train the student in laboratory methods and give him an acquaintance with normal psychical phenomena. *I.; Lectures, M., W., arrange time for laboratory; (5).* Professor DEXTER and Assistant Professor COLVIN.

Required: Two years of University work.

4. EXPERIMENTAL PSYCHOLOGY.—This is a continuation of course 3. The laboratory method is continued in the study of the higher psychic activities. The work is especially adapted to the needs of the teacher. *II.; Lectures, M., W.; 4; arrange time for laboratory; (5).* Assistant Professor COLVIN.

Required: Two years of University work.

5. GENETIC PSYCHOLOGY.—The more substantial results of child study serve as a basis for the first part of the course, while the latter part is devoted to the phenomena of adolescence, and the intellectual problems confronting the youth. The development of the nervous system and growth of the body are traced in connection with the mental development. *I.; Tu., Th.; 3; (3).* Assistant Professor COLVIN.

Required: Two years of University work.

6. COMPARATIVE PSYCHOLOGY.—It is the aim of this course to trace the evolution of intelligence in connection with that of the nervous system from the lowest forms of animal life to that of man. The psychology of the higher vertebrates will be particularly studied and compared with that of the child and adult. *I.; Tu., Th.; 4; (2).* Assistant Professor COLVIN.

Required: Psychology 1 or 2.

7. PSYCHOLOGICAL SEMINARY.—During the current year the history of psychology is the subject of investigation. *I., II.; arrange time; (1).* Assistant Professor COLVIN.

Required: Psychology 1 or 2.

8. THE PSYCHOLOGY OF THE EMOTIONS AND THE WILL.—This course considers critically the principal phenomena of volition and feeling as distinguished from those of the intellect. Illustrations will be taken largely from biography, history, and literature. *II.; Tu., Th.; 2; (2).* Assistant Professor COLVIN.

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COURSE FOR GRADUATES.

101. RESEARCH COURSE.—Though primarily for graduates, this course may be taken by seniors with suitable preparation.

RAILWAY ENGINEERING.

[For instructors see Mechanical Engineering.]

1. LOCOMOTIVE ENGINES.—This work is a study of the constructive features of the locomotive in all its parts and of their relations. The development, applications, and limitations of the various types and their special study with reference to the relations between boiler and cylinder capacity, weight on drivers, speed, hauling capacity, etc. Tendencies in design. Includes also a study of all accessory apparatus used in the operation of locomotives. *I.; Tu., Th.; 1; (2).* Assistant Professor SCHMIDT.

Required: Theoretical and Applied Mechanics 1, Physics 1, 3; Mechanical Engineering 7.

2. LOCOMOTIVE ENGINE DESIGN.—The proportions and dimensions of standard locomotives are studied. Calculations and designs relating to boiler and engine details, cylinder proportions for compound types of slide valves, and valve gears. *I.; Tu., Th.; 2, 3; W.; 6, 7, 8; (3)* Professor BRECKENRIDGE.

Required: Mechanical Engineering 1 to 7, 23, 24; Theoretical and Applied Mechanics 1, 2.

3. SHOP SYSTEMS.—Lectures and readings. Visits of inspection. A study of the proceedings of the societies and railway clubs and the technical press. *I.; Tu., Th.; 6, 7, 8; (2).* Assistant Professor SCHMIDT.

4. LOCOMOTIVE ROAD TESTS.—Arrangements for locomotive road tests have been perfected with several roads entering Champaign and Urbana. Already five locomotives have been equipped for this work and tests made in actual service conditions. This work is greatly facilitated by the use of the dynamometer and railway test cars which are now at the service of the department. This course includes also brake tests and other laboratory work. *I.; M., F.; (4).* Assistant Professor SCHMIDT.

Required: Theoretical and Applied Mechanics 3; Mechanical Engineering 1 to 7, 14.

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5. Compressed Air in Railway Service.—This will include a careful study of the construction and operation of the air-brake system in detail. The air-brake instruction cars of the I. C. R. R. and the C. C. C. & St. Louis Ry. make frequent stops at these points, and the instructors in charge kindly devote sufficient time to illustrate and explain the operation of the air-brake. The use of compressed air in shop service is also studied. *II.; Th.; 2; (1).* Assistant Professor Schmidt.

Required: Mechanical Engineering 7.

6. Railway Estimates.—A study of costs of materials and repairs. Forms of specifications for supplies. Costs of operation and maintenance of foreign and American practice compared. *II.; Tu.; 2, 3; (1).* Professor Breckenridge.

Required: Railway Engineering 1 to 4.

7. Advanced Designing.—Under this head attention will be paid to details of rolling stock, pumps, gas and oil engines for water supply. Special machinery for repair shop service, turntables, and advanced problems relating to locomotive design. *II.; Tu., W., Th.; 6, 7, 8; (3).* Mr. Fraser.

Required: Theoretical and Applied Mechanics 1, 2, 3; Railway Engineering 1, 4.

8. Dynamometer Car Tests.—Investigations will be made under actual road conditions relating to hauling capacity of engines, train resistance due to acceleration, grades, curves, and wind pressure. Air-brake service inspections. Automatic records of track conditions as to gauge, surface, joints, and elevation of rails. Tests at stationary plants and railway shops will be made.

Arrangements for careful and scientific sampling of fuels, boiler waters, oils, paints, varnishes, and railway supplies for analysis and tests will be included in this work. *II.; F.; 1, 2, 3; (1).* Assistant Professor Schmidt.

Required: Railway Engineering 4.

9. Locomotives and Steam Railways, Electric Railways.—General treatment, giving peculiar adaptations and limitations of steam and electric roads; their adoption as determined by character of country or service and distance. Probable future changes in the latter; essential differences in operation. *I.; Tu., Th.; (2).* Assistant Professor Schmidt.

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RHETORIC AND ORATORY

Professor CLARK, Assistant Professor FULTON, Miss KYLE, Mr. ROUNDS, Mr. SCOTT, and Mr. FOX.

1. RHETORIC AND THEMES.—Required for students in the College of Literature and Arts. *Pearson's English Composition. I., II.; M., W., F.; section A, 1; B, 1; C, 2; D, 3; E, 4; F, 5; Tu., Th., F.; G, 6; (3).* Assistant Professor BALDWIN, Miss KYLE, Mr. SCOTT, Mr. PAUL and Mr. FOX.

2. RHETORIC AND THEMES.—Required for students in the Colleges of Agriculture, Science, and Engineering. *Pearson's English Composition. I., II.; M., W., F.; section A, 2; sections B, C, D, 3; sections E, F, 6; sections G, H, I, J, 7.* Assistant Professor FULTON, Miss KYLE, Mr. ROUNDS, Mr. SCOTT, and Mr. FOX.

3. DAILY THEMES.—*Wendell's English Composition; Bates's Talks on Writing English, second series. I., II.; M., W., F.; section A, 3; section B, 4; (4).* Professor CLARK.

Required: Rhetoric and Oratory 1 or 2.

4a. ARGUMENTATION.—*Alden, The Art of Debate. I.; M., W., F.; 4; (3).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

4b. EXPOSITION.—*II.; M., W., F.; 4; (3).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

5. ORAL DISCUSSION.—Discussion without notes of present day economic and political subjects; criticism of form, delivery, and subject-matter. *I., II.; Th.; 8; (1).* Mr. ROUNDS.

Required: Rhetoric and Oratory 1 or 2.

6a. ENGLISH COMPOSITION (Advanced Course).—*Bate's Talks on Writing English. I.; Tu., Th.; 3; (3).* Assistant Professor FULTON.

Required: Rhetoric and Oratory 1 and 3.

6b. ENGLISH COMPOSITION AND LITERATURE.—The study of rhetorical principles, as seen in literary masterpieces. In 1903-04. The essays of Lamb, Newman, Arnold, Pater, and others will be studied and analyzed; in 1904-05, the essays of Swift, Macaulay, De Quincey, Stevenson, and others. Two three-page themes a week and two long exercises a semester. Students may elect this course in two successive years and receive credit for it twice. *II.; Tu., Th.; 3; (3).* Assistant Professor FULTON.

Required: Rhetoric and Oratory 1 and 3.

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7a. PUBLIC SPEAKING.—A course for practical training in public speaking. *I., II.; sections on M., Tu., and F.; 7; (1).* Mr. ROUNDS.

7b. PUBLIC SPEAKING.—Same as Rhetoric and Oratory 7a, beginning with the second semester. *II.; section A, M.; section B, Tu.; section C, F.; 7; (1).* Mr. ROUNDS.

8. SEMINARY.—Methods of teaching English composition. Open to senior and graduate students. *I. or II.; W.; arrange time; (1).* Assistant Professor FULTON.

9. DRAMATIC READING.—Lectures; declamation of extracts from Shakspere; Macbeth, Othello, Julius Caesar, Hamlet, and Merchant of Venice read in class. *I., II.; Tu., Th.; 2; (2).* Mr. ROUNDS.

10. BUSINESS WRITING.—Business correspondence, the making of summaries and abstracts, advertising, proof reading, and the preparation of manuscripts for the press. *I., II.; Tu., Th.; 4; (2).* Professor CLARK.;

Required: Rhetoric and Oratory 1 or 2. (Open only to students in business courses.)

SOCIOLOGY

See Economics 17, English 19, Anthropology 1, 2.

SPANISH

Professor FAIRFIELD.

1. GRAMMAR AND READING.—*Edgren's Spanish Grammar; Knapp's Spanish Readings; Cervantes' Don Quixote;* outlines of Spanish literature. *I., II.; M., W., F.; 7; (3).* Professor FAIRFIELD.

THEORETICAL AND APPLIED MECHANICS

See Mechanics (p. 254).

THREMMATOLOGY

Professor DAVENPORT.

1. APPLIED EVOLUTION.—The principles of evolution as applied to the improvement of domesticated animals and plants. Variation, its extent and causes. Selection and its effect in changing type, as

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illustrated both in nature and in domestication. The nature of heredity and the manner of its operation under the influence of environment. Reflex action, habit, and instinct, as bearing upon the question of the inheritance of acquired characters. The origin, correlation, and disappearance of characters. The laws of frequency and regression as bearing upon achievements that may be confidently expected. *I.; daily; 4; (5).* Professor DAVENPORT.

Required: Two years of University work.

2. INVESTIGATION AND THESIS. *I, or II.; (5).* Professor DAVENPORT.

VETERINARY SCIENCE

Professor MCINTOSH.

1. ANATOMY AND PHYSIOLOGY.—The anatomy and physiology of the domestic animals, diseases of the bony structure and lameness. The instruction is given by lectures aided by demonstrations with use of skeletons, and of other apparatus, as follows: Dr. Auzoux's complete model of the horse, which is in ninety-seven pieces and exhibits 3,000 details of structure; *papier-maché* model of the horse's foot; the teeth of the horse; and dissections of animals. This work is supplemented with the study of text-books. *Strangeway's Veterinary Anatomy, Mills's Animal Physiology,* and *Diseases of Horses and Cattle. I., II.; daily; 4; (5).* Professor MCINTOSH.

2. VETERINARY MATERIA MEDICA.—This subject, which treats of the agents for the cure of disease or injury, and for the preservation of health among domestic animals, is taught by lectures and text-books, illustrated by specimens of the drugs used in veterinary practice. The compounding of medicines also receives attention. Text book, *Finlay Dun's Veterinary Materia Medica. I., II.; daily; 3; (5).* Professor MCINTOSH.

3. THEORY AND PRACTICE OF VETERINARY MEDICINE AND SURGERY.—This subject is taught by lectures and text-books on the diseases of domestic animals, and is illustrated with specimens of morbid anatomy and by observations and practice at the free clinics. The latter are held at the Veterinary Infirmary once a week. The students assist in the operations, and thus obtain a practical knowledge of the subject. Dissections and *post-mortem* examinations are made as cases present themselves. Text-books, *Diseases of Horses and Cattle, by D. McIntosh, and Williams's Practice of Veterinary Medicine and Surgery. I., II.; daily; 2; (5).* Professor MCINTOSH.

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ZOOLOGY

Professor FORBES, Assistant Professor SMITH, and Mr. MCCLELLAN.

1. INVERTEBRATE ZOOLOGY.—Following upon zoology 10, this course extends somewhat the series of type forms presented under that head, and lays the foundation for a knowledge of animal development. It is largely given to the study of the invertebrate animals commonly found in Illinois, with special attention to their distribution, their habits, and their life histories, and to the adaptive structures which exhibit or determine their relations to their environment. Field work and its methods are included in the course, and the organization of its instruction is such as to permit some diversity in the work of the different students. *II.; lecture M., W., F.; 2; laboratory, 7 periods; arrange time; (5).* Assistant Professor SMITH, and Mr. MCCLELLAN.

Required: Art and Design 1; an entrance credit in chemistry or Chemistry 1; Zoology 10.

2. VERTEBRATE ZOOLOGY AND COMPARATIVE ANATOMY.—In the laboratory work of this course principal attention will be given to the anatomy of Necturus and to anatomical and systematic studies of fishes, birds, and mammals, especial reference being had to the anatomy of man. The more difficult parts of laboratory technology will be given in this course, which will also contain lectures on the general theory of organic development as illustrated by the doctrine of the descent of man. *I.; lecture, M., W., F.; 4; laboratory, 7 periods; arrange time; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

Required: The same as for Zoology 1.

3. VERTEBRATE EMBRYOLOGY.—This course begins with a study of the sex cells and a discussion of theories of heredity, followed by a consideration of the early stages in the development of the egg. The formation of the vertebrate body is then studied in the amphibian, the chick, and the pig. Instruction is given in the preparation of embryological material and in graphic reconstruction from serial sections. *II.; 3, 4; (5).* Mr. MCCLELLAN.

Required: Zoology 2.

4. ADVANCED ZOOLOGY.—Under this head is offered an opportunity for individual advanced work for one or two semesters along lines to be selected in consultation with the instructor. It may include field and systematic zoology, or a laboratory course in mam-

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malian anatomy, but is otherwise essentially a research course for students specializing in zoology. One semester of this course is required of all intending to graduate with a zoological thesis. *I., II.; arrange time; (5).* Assistant Professor SMITH.

Required: Zoology 1, 2.

5. ELEMENTARY ENTOMOLOGY.—(See Entomology 1.)

6. GENERAL ENTOMOLOGY.—(See Entomology 2, 3.)

7. PRACTICAL ENTOMOLOGY.—(See Entomology 4.)

8. THESIS INVESTIGATION.—Candidates for graduation who select a zoological subject as a thesis are required to spend three hours a day during their senior year in making a detailed investigation of the selected topics. While this work is done under the general supervision of an instructor, it is in its methods and responsibilities essentially original work. *I., II.; arrange time; (5).* Professor FORBES and Assistant Professor SMITH.

Required: Two years in zoological courses, including one semester of Zoology 4.

9. TEACHER'S COURSE IN ZOOLOGY.—Offered especially to prospective teachers of zoology in high schools. Includes work in the field, laboratory and library, the management of excursions, the collection and preparation of material, the selection, assignment, and management of subjects for individual study, and the determination and study of the animal forms of a restricted locality. High school courses of zoological study will be collected, compared, and criticised, and methods of management and instruction in secondary schools will be compared and discussed with reference to general pedagogical theory and to the special ends of the teacher of zoology. *II.; 6, 7; (3).* Professor FORBES.

Required: Zoology 1, also Zoology 2, or Entomology 2 or 3.

10. INTRODUCTORY ZOOLOGY.—This is a field, laboratory, and lecture course, mainly on the morphology, physiology, and oecology of type forms, and on the more obvious features of sytology and development. The work leads to an acquaintance with the simpler generalizations of zoological theory, and is intended especially as a preparation for courses 1 and 2. Students who present an entrance credit in zoology or biology may take as a fractional course those parts of this work not covered in their previous study. *I.; 1, 2; (5).* Assistant Professor SMITH and Mr. MCCLELLAN.

11. GENERAL ZOOLOGY.—This course is especially designed for students in the College of Literature and Arts who do not intend

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taking more than one year's work in zoology. The chief aim will be to give such important facts and generalizations as can be made intelligible in a brief course. The laboratory work will be planned to serve as a partial basis for lectures and reference reading on facts and theories of organic evolution with the related topics of variation and heredity. This course is not adapted to serve as an introductory course in zoology nor as a preparation for teaching. *I., II.; M., W.; 6, 7; (2).* Assistant Professor SMITH and Mr. MCCLELLAN.

Required: At least one year of University work.

12. STATISTICAL ZOOLOGY.—This course is offered for students taking Mathematics 26. It includes lectures and reference reading on the application of statistical methods to biological problems. The history of the development of this mode of biological investigation, the nature of the problems to which it is applicable and some of the results already obtained in the study of variations, heredity, distribution and phylogeny are among the topics considered. Students taking this course, together with Mathematics 26b, ordinarily use for the problems of the latter course, zoological data that have been obtained either by their own observations or from other sources. If desired the combined credits of this course and Mathematics 26 may be counted as 5 credits either in zoology or in mathematics *II.; F.; 7; (1 or 5).* Assistant Professor SMITH.

Required: Mathematics 2, 4, 6, 8a, and at least ten hours of University work in Zoology or in Zoology and Entomology.

COURSES FOR GRADUATES.

101. PLANKTON ZOOLOGY.—Instruction and practice will be given in modern methods of studying minute forms of aquatic life with the aid of a plankton apparatus and laboratory equipment. This work includes both a qualitative and a quantitative investigation of the minute zoological contents of a selected body of water, carried on systematically through a considerable period, and the generalization of the results of such study by the methods peculiar to the planktologist.

102. FRESH-WATER ICHTHYOLOGY.—The large collections of fishes belonging to the University and the State Laboratory of Natural History, together with the ichthyological library of the latter, are open to students who wish to become acquainted with the ichthyology of a fresh-water situation. Both qualitative and quantitative studies of the fishes of a selected body of water are made, and

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papers written presenting the results of personal studies in this field.

103. FRESH-WATER AND TERRESTRIAL ANNELIDS.—This is an application of the methods of the zoological laboratory to the study of the annelid worms of the land and the inland waters of North America. The description of genera and species, practice in drawing for publication, and experimental work on the physiology and oecology of selected forms will be included in this course.

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DEGREES

BACHELORS' DEGREES

The usual bachelors' degrees are conferred upon those who satisfactorily complete the courses of study described under the different colleges and schools. A candidate for a bachelor's degree must pass in the subjects marked *prescribed* in his chosen course, and must conform to the directions given in connection with that course in regard to electives. In the College of Literature and Arts, of Science, and of Agriculture, credit for 130 hours is required for graduation. In the College of Engineering, in the College of Law, and in the Schools of Music and Library Science the candidate must complete the course of study as laid down. The number of hours required includes five in military drill and tactics, and two in physical training, for men, and three in physical training for women. Men excused from the military requirements, and women who do not take courses in physical training, must elect in lieu thereof an equivalent number of hours in other subjects.

In all cases in which a thesis is required,* the subject must be announced not later than the first Monday in November, and the completed thesis must be submitted to the dean of the proper college by June 1st. The work must be done under the direction of the professor in whose department the subject naturally belongs, and must be in the line of the course of study for which a degree is expected. The thesis must be presented upon regulation paper, and will be deposited in the library of the University.

1. The degree of Bachelor of Arts is conferred on those

* See requirements for graduation in the different colleges.

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who complete a course in the College of Literature and Arts, or of Science.

2. The degree of Bachelor of Science is conferred on those who complete a course in the College of Engineering, or of Agriculture. This degree may be conferred on a graduate of the College of Science on recommendation of the Faculty, as announced on p. 103. The name of the course is inserted in the diploma.

3. The degree of Bachelor of Laws is conferred on those who complete the course in the College of Law.

4. The degree of Doctor of Medicine is conferred on those who complete the course in the College of Medicine.

5. The degree of Bachelor of Library Science is conferred on those who complete the course in the School of Library Science.

6. The degree of Bachelor of Music is conferred on those who complete one of the courses in the School of Music.

7. The degree of Graduate in Pharmacy is conferred on those who complete the course in the School of Pharmacy.

8. The degree of Doctor of Dental Surgery is conferred on those who complete the course in the School of Dentistry.

ADVANCED DEGREES

No degrees are given for study *in absentia,* except that graduates of this University, who become members of the Graduate School and reside elsewhere, may receive a master's degree upon the completion of their courses of study within not less than three years of the date of registration. Advanced degrees are conferred by the Trustees of the University only upon recommendation of the Senate, based upon information furnished by the Council of Administration.

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SECOND DEGREES

The second degrees conferred by this University are as follows:

Master of Arts after Bachelor of Arts.

Master of Science, after Bachelor of Science in courses in the colleges of Agriculture and Science.

Master of Architecture after Bachelor of Science in courses of Architecture and Architectural Engineering.

Civil Engineer, after Bachelor of Science in the course in Civil Engineering.

Electrical Engineer after Bachelor of Science in the course in Electrical Engineering.

Mechanical Engineer after Bachelor of Science in the course in Mechanical Engineering.

Pharmaceutical Chemist after Graduate in Pharmacy.

Graduates of other colleges and universities which have equivalent requirements for baccalaureate degrees may be given second degrees determined in kind by comparison with the usage described above.

All candidates for second degrees are required to register in the Graduate School, to conform to the conditions outlined under "Admission and Registration," and "Studies and Examinations" (pp. 63 and 64); to pursue an approved course of study for one academic year in residence, or, in the case of graduates of this University, for three years *in absentia;* and to pass satisfactory examinations upon all the studies of the approved course.

Each candidate for a second degree must present an acceptable thesis in the line of his major subject of study. The subject of this thesis must be announced to the Dean of the Graduate School not later than the first Monday in November of the academic year in which the course is to be completed. The completed thesis, upon regulation paper, must be presented, with the certified approval of the professor in charge, to the Council of Administration not later than June 1st.

The period of required study begins from the date of registration in the Graduate School.

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DOCTOR'S DEGREE

The Degree of Doctor of Philosophy may be conferred upon any member of the Graduate School of not less than three years' standing who shall have reached high attainments in scholarship, including a sufficient knowledge of the French and German languages to serve the purposes of research in his principal specialty, who shall have shown marked ability in some line of literary or scientific investigation, and shall have presented a thesis giving clear indications of such scholarship and of such power of research. At least the first two, or the last one, of the three years of study must be residence at the University, and the entire course of study must be in accordance with the regulations of the Graduate School.

The time and study required for a master's degree may be included in the three years required, but approval of a course of study for a doctor's degree must be upon the condition that the candidate is prepared through his baccalaureate work, or otherwise, to enter at once upon advanced studies in the line of his major subject, and that work on this major subject be continued through the three years.

The final examination of a candidate for the doctor's degree is conducted by a committee consisting of the head of the department under which the major subject has been pursued, as chairman, and of not less than two additional members of the Senate of the University, appointed for the purpose by the Council of Administration. This examination covers the subjects of the course approved for the degree, but is especially searching upon that on which the major work has been done.

Each candidate for a doctor's degree must announce to the Dean of the Graduate School a thesis subject not later than the first Monday in November of the academic year at the close of which the award of the degree is expected. A fair copy of the thesis must be submitted, with a certified approval of the committee on examinations, to the Council of Administration not later than the first day of June. If

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the thesis is approved by the Council the candidate must have it printed and must deposit not less than one hundred copies with the librarian of the University.

FELLOWSHIPS.

The Trustees of the University have established eight fellowships, each with a stipend of three hundred dollars, payable in ten monthly installments.

The rules governing appointments to these fellowships are as follows:

1. The purpose of these fellowships shall be to promote advanced scholarship and original research in the University.

2. The fellowships shall be open to graduates of this and similar institutions. Those who are to complete an under-graduate course previous to the academic year for which appointments are made shall be eligible, with others, as candidates.

3. Nominations to fellowships, accompanied by assignments to special departments of the University, shall be made by the Council of Administration to the Trustees of the University, upon applications received by the President of the University each year not later than the first day of February. These nominations shall be made at a meeting of the Council called for that purpose within the month of February. The appointments by the Trustees are made at their regular meeting in March, and shall take effect the first day of the following September. Vacancies may be filled by similar nominations and appointments at other times.

4. Nominations to fellowships shall be made upon the grounds of worthiness of character, scholastic attainments, and promise of success in the principal line of study or research to which the candidate proposes to devote himself. Consideration shall also be given to the probable value or usefulness of the services of the candidate as an assistant in instruction, but this shall not be deemed the primary object

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of the appointment. Other things being equal, preference is given to those graduates of this University who have pursued a specialized or group course.*

5. Candidates must present, with their applications, full information concerning themselves and their qualifications for advanced study and research work, including any written or printed essays or results of investigation, and must name the subject in which they wish to do their major work.

6. Fellowships are good for one year, but appointments may be renewed to the same person. An appointment as *honorary fellow,* without stipend, may be made as specified for paid fellowships in the case of anyone who has held a regular fellowship and has shown distinguished merit in his work.

7. Fellows shall be constituted members of the Graduate School, shall have all of the privileges and bear all of the responsibilities of such membership. Each regular fellow may be called upon to render service in instruction throughout the year in the department in which his major subject lies, equal to one hour daily of class instruction or to two hours daily of laboratory supervision. This service will receive such credit as the Council of Administration may determine in each case. Blank forms for application may be obtained by addressing the Registrar, or the Dean of the Graduate School.

SCHOLARSHIPS.

STATE

A law passed by the General Assembly of the State of Illinois at the session of 1895 provides that there may be awarded annually to each county of the state one state scholarship and one additional scholarship for each senatorial district in excess of one in any county. The holder

* See p. 73. All members of the College of Engineering and of Agriculture, of the chemical and mathematical groups in the College of Science, of the College of Law, and of the Schools of Library Science and Music, are considered as pursuing specialized courses.

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thereof must be a resident of the senatorial district to which he is accredited, and is entitled to free tuition in other than the preparatory and professional schools of the University.

A competitive examination under the direction of the Superintendent of Public Instruction shall be held at the county courthouse in each county of the state upon the first Saturday of June in each and every year by the county superintendent of schools upon such branches of study as said Superintendent of Public Instruction and the President of said University may deem best.

Questions for such examinations shall be prepared and furnished by the President of the University to the Superintendent of Public Instruction, who shall attend to the printing and distribution thereof to the several county superintendents of schools prior to such examinations.

The law also provides that in case the scholarship in any county is not claimed by a resident of that county, the Superintendent of Public Instruction may fill the same by appointing some candidate first entitled to a vacancy in some other county.

Candidates to be eligible to a state scholarship must be at least sixteen years of age, and must have been residents of their respective counties for the year preceding the examination.

A student holding a state scholarship who shall make it appear to the satisfaction of the President of the University that he requires leave of absence for the purpose of earning funds to defray his expenses while in attendance, may, in the discretion of the President, be granted such a leave of absence, and may be allowed a period not exceeding six years from the commencement thereof for the completion of his course at said University.

The examinations will be held June 6, 1903, and June 4, 1904.

For particulars about them write to Hon. Alfred Bayliss, Superintendent of Public Instruction, Springfield, or to W. L. Pillsbury, Registrar, Urbana.

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Any person, whether a candidate for a scholarship or not, may be examined for admission to the University at these state scholarship examinations.

SCHOLARSHIPS IN THE COLLEGE OF AGRICULTURE

The University offers every year to each county in the state, except Cook and Lake, and to each of the first ten congressional districts, two scholarships for students of the College of Agriculture—one for students of Agriculture and one for students of Household Science.

Appointments are made by the Trustees of the University to scholarships in Agriculture upon the recommendation of the executive committee of the Illinois Farmers' Institute, and to scholarships in Household Science upon the recommendation of the County Domestic Science Associations. Persons under 18 years of age and those who have already attended the University are not eligible. Acceptable candidates, residents of counties or districts for which appointments have been made, may be assigned to counties or districts not yet represented.

The scholarships are good for two years and relieve the holders from the payment of the matriculation fee, $10.00, and the incidental fee, $24.00 a year. The term of a scholarship may be extended four years, if, before it expires, the holder satisfies in full the requirements for admission to the freshman class of the College of Agriculture.

For further information address W. L. Pillsbury, Registrar, Urbana.

MILITARY

Students who have gained 3 hours in class room military instruction and 4 in drill practice, are eligible for appointment as commissioned officers of the regiment or battery. Those attaining this rank may be awarded special scholarships, good for one year, and equal in value to the University term fees for the same length of time.

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PRIZES.

MILITARY DECORATIONS

Bronze medals typical of the University and its Military Department are awarded by the University to the members of the Infantry Company and Artillery Gun Detachment which shall score the greatest number of points at the Annual Competitive Drill. The medals so awarded become the permanent property of the recipients. A complete roster of the winning organizations is published in the University Catalog for the following year.

THE HAZLETON PRIZE MEDAL

Capt. W. C. Hazleton provided in 1890 a medal, of beautiful and artistic design, which is to be awarded, at a competitive drill to be held near the close of the year, to the best drilled student. Each competitor must have been in attendance at the University at least sixteen weeks of the current college year; must not have had more than four unexcused absences from drill; and must present himself for competition in full uniform.

The award is made for excellence in these particulars:

1. Erectness of carriage, military appearance, and neatness.
2. Execution of the school of the soldier, without arms.
3. Manual of arms, with and without numbers.

The successful competitor will receive a certificate setting forth the facts, and may wear the medal until the 15th day of May following, when it will be returned for the next competition.

INTERSCHOLASTIC ORATORICAL CONTEST

A medal of the value of twenty dollars and two of the value of ten dollars each, are offered annually by the University to the high schools of the state for the best oration delivered in a competitive contest between their representa-

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tives. This contest takes place in the spring at the time of the interscholastic athletic meet.

THE BRYAN PRIZE

In 1898 Mr. William Jennings Bryan gave to the University two hundred and fifty dollars. From the interest of this sum a prize of twenty-five dollars is biennially offered for the best essay on the science of government. The contest is open to all matriculated undergraduate students. The essays may not be less than three thousand, nor more than six thousand, words in length, and must be left at the President's office not later than the second Wednesday in May. The prize was offered for the first time in 1901. In 1903 the essays are upon "The Reasonable Limitations of the Police Power."

BENEFICIARY AID.

EDWARD SNYDER DEPARTMENT OF STUDENTS' AID

In 1899 Professor Edward Snyder, Professor of the German language and literature, *emeritus,* gave to the University the sum of $12,000, to be loaned to worthy students to enable them to finish their courses in the University.

This fund is, by action of the Trustees, available for junior, senior, and graduate students who need aid to remain and complete their work. The minimum loan made is fifty dollars ($50), and the maximum is one hundred and fifty dollars ($150) to a junior, and two hundred dollars ($200) to a senior or graduate, student. Notes of hand are taken for the amount of the loans, with 5 per cent. interest. The maximum time limit is three years for juniors, and two years from the ensuing thirtieth day of July for seniors and graduates.

Applications for loans are passed upon by the Council of Administration and approved by the Finance Committee of the Board of Trustees of the University.

Loans are made to matriculated students only who have

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attained at least the rank of full juniors, who have been in residence at this University at least one year, who are at the time students in residence at this University, and who have declared their intention to graduate.

In recommending loans preference is given to those students who are farthest along in their University work, who have shown themselves most assiduous and successful in their studies, and have shown habitual economy in life.

No distinction shall be made among students on account of sex or course of study.

A loan will not be recommended for any student who is believed to have been financially or morally delinquent in any respect.

Information given by applicants is considered confidential on the part of the University authorities.

Applications for loans must be addressed to

THE PRESIDENT OF THE UNIVERSITY,
Urbana, Illinois.

CLASS OF 1895 LOAN FUND

This is a fund of $250.00, established by the class of 1895, to be loaned to needy and deserving students. According to the conditions of the gift, one-fifth of the amount is to be loaned annually, and is open to members of the freshman class only. No person may receive the benefit of the fund more than four years. The loan bears interest at the legal rate from the time the recipient leaves the University, and is due, one-half in five years, and one-half in six years, after matriculation. The management of the fund is in charge of the Council of Administration.

SOCIETIES AND CLUBS

LITERARY SOCIETIES

The ADELPHIC and PHILOMATHEAN societies for men, and the ALETHENAI for women, occupy large halls, which the members have appropriately furnished and decorated. Meetings are held Friday evenings throughout term time.

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THE CHRISTIAN ASSOCIATIONS

YOUNG MEN'S AND YOUNG WOMEN'S CHRISTIAN ASSOCIATIONS

The Young Men's and Young Women's Christian Associations have come to occupy a prominent place in the University life. Both are affiliated with the World's Student Christian Federation, which is the largest student organization in existence.

Five hundred and fifteen men now belong to the Young Men's, and three hundred women to the Young Women's, Association. Each association employs for full time a general secretary.

The Association House furnishes free to all students, reading room, game room, library, parlors, piano, magazines and papers, correspondence tables and telephone—a college home.

Religious meetings for men are held on Sunday mornings; for women on Thursday afternoons; and for both men and women on Monday evenings. There are frequent meetings for the promotion of social intercourse and good fellowship.

Courses in systematic Bible study and in modern missions are offered. During the year four hundred and twenty-nine men and two hundred women have enrolled in these courses. A most helpful feature of the work is that in the interest of new students at the opening of the school year. Desirable rooms and boarding places are found and posted for reference at the Association House. Representatives of the Associations meet the trains, assist students in finding satisfactory locations, and endeavor in every way to make them feel at home. The employment bureau helps to find work.

A copy of the Students' Hand-Book, containing a map of the cities, and giving information about Champaign and Urbana, the University, and the various college organizations and activities, will be sent free to prospective students.

For further information address the General Secretary of either Association.

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CLUBS AUXILIARY TO COURSES OF STUDY

AGRICULTURAL CLUB

This club meets weekly. It is devoted to the discussion of topics of theoretical and practical interest to students of agriculture. All students connected with the University are eligible to membership.

ARCHITECTS' CLUB

This club meets once in two weeks for the consideration of current topics of architectural interest and subjects connected with the study of architectural history. All students pursuing architectural studies are eligible to membership. This club is a member of the Architectural League of America, and contributes to its annual exhibition in the principal cities of the United States.

BIOLOGICAL THEORY CLUB

This club meets on alternate Monday evenings throughout the college year for papers, addresses, and discussions on subjects in theoretical biology. Its membership is composed of instructors in biological subjects in the Colleges of Science and Agriculture.

CIVIL ENGINEERING CLUB

This club meets the second and fourth Saturday evenings of each month for the reading and discussion of papers relating to civil engineering. All students pursuing the civil engineering course may become members.

THE ENGLISH CLUB

The English Club is composed of members of the Faculty, and of students who have done especially good work in English. The work of the club is confined to the study of recent writers of fiction and of poetry. The membership is limited to thirty. Meetings are held on the second Monday of each month.

FRENCH CLUB

Le Cercle Français includes students who have had at least one year's work in French. The club meets twice a

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month throughout the year. Its proceedings are conducted in French, the object being to supplement the work of the class room by the practical handling and understanding of the language.

LIBRARY CLUB

The instructors and students of the Library School have organized a Library Club. Any member of the staff of the University library, of the Champaign public library, or of the Urbana public library, or any student who is registered for the Library School may become an active member. Trustees of the three libraries before mentioned are considered honorary members. Any others interested in library progress may become associate members.

Meetings are held once in three weeks during the college year. The first and last meetings of the year are of a social nature. The intervening meetings are devoted to topics of literary or technical library interest.

MATHEMATICAL CLUB

The Mathematical Club is open for membership to the instructors and students of mathematics at the University. It meets once in two weeks to discuss questions of interest in pure and applied mathematics.

MECHANICAL AND ELECTRICAL ENGINEERING SOCIETY

This club meets on the second and fourth Friday evenings of each month. All students pursuing mechanical and electrical engineering studies are eligible to membership. Papers relating to subjects of interest to members are presented and discussed at each meeting.

MUSICAL CLUBS

These are described under the School of Music (pp. 140, 141).

THE NATURAL HISTORY SOCIETY

This society is composed of instructors and students interested in the natural sciences. It conducts field excursions and exhibitions of objects of natural history, and provides occasional lectures on science subjects of general interest.

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POLITICAL SCIENCE CLUB

This club is composed of the members of the corps of instruction in history, economics and law, and of such students of junior and senior standing as make a record for marked excellence in work in these departments. It meets once a month.

ZOOLOGICAL CLUB

The University Zoological Club is composed of advanced students and instructors in the zoological and physiological departments, together with such other biological instructors and advanced students as are interested in its subjects. Its sessions are devoted to the presentation and discussion of abstracts of recent biological literature and of the results of investigation by the members of the club. It meets weekly in Natural History Hall.

MILITARY SCIENCE.

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of officers of the line. A full supply of arms and ammunition is furnished by the War Department, including 500 cadet rifles and accoutrements and two field pieces of artillery.

Every male student able to perform military duty, and not excused for sufficient cause, is required to drill twice each week until he has gained credit for 4 semester hours. He is also required to study Drill Regulations for Infantry and to recite upon the same once a week until he gains credit for one semester hour. The practical instruction begins as soon as possible after he enters the University. A preparatory student carrying no freshman studies and not expecting to matriculate during the year is not permitted to drill. The standings in study and drill are placed on record, with other class credits; one semester of recitations and drill count two hours, and the three remaining semesters of drill three hours, and are requisite to graduation in every University course.

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Appointments in the regiment are made on nomination by the officer in charge and confirmation by the Council.

The regiment (two battalions of four companies each) is composed mainly of the members of the freshman and sophomore classes. The non-commissioned officers are usually selected from the sophomore class, the lieutenants from the junior class, and the field officers and captains from the senior class and graduate school.

A special military scholarship, good for one year, is open to each student who attains the grade of a commissioned officer, the value of which is paid the holder at the close of the year.

An artillery detachment is organized mainly from the second year, or sophomore, class, which receives practical instruction twice each week during the college year.

Toward the close of the year a committee appointed by the Council examines candidates for nomination to the Governor of the state to receive commissions as brevet captains in the state militia. Candidates must be members of the senior class in full standing at the time of this examination; must have completed the course of military studies; must have served four semesters as commissioned officers, and must be approved by the Council as having good reputations as scholars, officers, and gentlemen.

The Trustees have prescribed a uniform of cadet gray, coat trimmed with black mohair braid, trousers with black cloth stripe, cut after the U. S. Army pattern.

In order that all uniforms worn at this University may be, in quality, make, and finish in strict accordance with the specifications adopted by the Board of Trustees, all students enrolled in the military department are required to obtain them from that firm only that may, for the time being, be under agreement and bond with the Trustees to furnish said uniforms at a stated price and of standard quality.

The University Military Band is composed of students, and every full term of service therein is counted as one term of drill.

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PHYSICAL TRAINING

FOR MEN

The main object of the work of this department is to preserve and to improve the bodily health of the students by careful physical examinations, and rational prescriptions of exercises; by correcting physical deformities and imperfect development; by teaching proper methods of living; and by encouraging proper intercollegiate sports.

Each student is required to undergo a physical examination so that a correct knowledge of his bodily condition may be obtained, and proper exercises prescribed. Regular classes are formed for drill on the various gymnasium appliances. Lectures are given upon personal hygiene.

All competitive athletic games are under the direct supervision of the director of physical training, and his examination is required to show that membership on any team will not cause injury, but will tend to improve the physical condition. No student whose class work is unsatisfactory will be allowed to play on a University team.

Two courses are offered students who wish to prepare as instructors of physical training or coaches of athletic teams.

FOR WOMEN

The general health and development of the young women are carefully looked after by the director of the women's gymnasium. Each student comes under the personal observation of the director and is given a physical examination, in order that her physical condition may be known, suitable exercise prescribed, and advice given. The system adopted is designed to meet the special wants of each student. Systematic class drill is given in Swedish, American and Delsarte gymnastics, including free and light exercises, dumbbells, clubs, wands, marching, fancy-steps, the Maypole, games, basket ball, military drill, and, if advisable, exercise on the various pieces of apparatus.

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The grounds of the University afford ample means for out-door recreation. There are four tennis courts, golf links, basket ball court, and field for other athletic sports.

Every freshman, not physically disqualified, must take the *prescribed* work. Students may elect enough to make five hours' credit, including that for prescribed work.

The women's gymnasium occupies very attractive quarters in Hydraulic Laboratory Building, and is well equipped. The gymnasium is open for exercise, at certain hours, under suitable restrictions, to those who are not enrolled in classes.

The uniform consists of navy blue serge, regulation gymnasium suit and shoes.

HOSPITAL ASSOCIATION

The Hospital Association is an organization of students to provide a fund for hospital care in case of sickness. The members of the association pay a fee of fifty cents each semester and the fund thus raised is used to pay the hospital expenses of members who may need such care. The fund is under the control of a committee of the Council, and during the past five years the association has rendered valuable aid to a considerable number of members. Students are strongly advised to join the association.

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EXPENSES

BOARD

The University does not furnish board, but there is a dining hall in the basement of University Hall, and under University supervision, where good meals may be obtained at reasonable rates. There are, also, a large number of suitable private places in Urbana and Champaign, within walking distance of the University, and easily accessible by electric railway, where students can obtain table board and rooms. There are several students' clubs at which the cost of meals is about two dollars and seventy-five cents a week.

The Business Manager and the Young Men's and Young Women's Christian Associations of the University will aid new students in procuring rooms and boarding places.

FEES

Technological, Scientific, Agricultural, and Literary Departments

MATRICULATION FEE. Each student not holding a scholarship upon satisfying the requirements for admission to the University, pays the matriculation fee of..... $10 00

THE DIPLOMA FEE, payable before graduation, is..... 5 00

THE INCIDENTAL FEE. All students, except those in the Graduate School, not taking studies which do not count for a second degree, and except those holding scholarships, pay, each semester, an incidental fee of..... 12 00

TUITION FEE. Students "conditioned" on entrance requirements, "special" students (see p. 63), except special students holding scholarships, pay, each semester, a tuition fee of 7 50

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LABORATORY FEES AND DEPOSITS. Each student working in laboratories, or in the drafting or engineering classes, is required to make a deposit varying from 50 cents to $10.00, to pay for chemicals and apparatus used, and for any breakages or damages.

Music Department

Students who are residents of Illinois, not including members of the Graduate School, will, if they are matriculated, pay for instruction in music of college grade the "incidental" fee only.....$12 00

All other students receiving instruction in music pay special fees for instruction in music of college grade and of preparatory grade, as follows:

	College.	Preparatory.
Piano, organ, voice, or violin or other stringed instrument, two lessons a week, each semester	$32 50	$19 50
Same, one lesson a week	19 50	11 50
Students in harmony, counterpoint, fugue, etc., pay, each semester	9 00	

[If students are regularly enrolled in other departments, the fees for college music are reduced to $25.00 and $15.00; and for Preparatory music to $15.00 and $8.50, each semester.]

Special students, taking music only, may enter classes in Physical Training (see p. 264) on paying each semester .....$ 7 50

No deduction is made on account of absence in any course, except in case of protracted illness.

Students can rent pianos for practice by applying to the head of the music department.

College of Law

Students of the College of Law, upon satisfying the requirements for admission, pay the matriculation fee of.....$10 00
Tuition fee, each semester..... 25 00
Students conditioned on entrance requirements pay, each semester, an additional fee of..... 7 50

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College of Medicine

Matriculation fee, paid each year	$ 5 00
General ticket, each term	55 00
Laboratory deposit (for material and breakages, balance returned)	10 00
Maternity hospital fee, payable once during senior year	10 00

School of Dentistry

Matriculation fee, each year	$ 5 00
General ticket, each year	100 00
Laboratory ticket, first and second years	10 00
Dissecting fee, first and second years	5 00
Final examination fee, third year	20 00

School of Pharmacy

Tuition fee, each year	$75 00
Laboratory deposit, each year	5 00

Preparatory School

All pupils in the Preparatory School pay, each semester, an "incidental" fee of	$12 00
Also a tuition fee of	7 50

ALL BILLS due the University *must be paid within ten days after the student enters classes.*

NECESSARY EXPENSES

The following are, for students attending at Urbana, estimated average annual expenses, *exclusive* of books, clothing, railroad fare, laboratory fees, if any, and small miscellaneous needs:

*Semester fees	$24 00	to	$24 00
Room rent for each student (two in room)	32 00	"	60 00
Table board in boarding houses and clubs	90 00	"	124 00
Washing	18 00	"	24 00
Total	$164 00	to	$232 00
Board and room in private houses, per week	4 50	"	6 00

* Students of law and music, special students and pupils of the Preparatory School, must make needed changes in the amount given for "Semester fees."

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CAUTION TO PARENTS—STUDENTS' FUNDS

The Business Manager will receive on deposit any funds parents may entrust to him to meet the expenses of their sons and daughters. No greater error can be committed than to send young people from home with large amounts of spending money, and without the authoritative care of some prudent friend. Half the dissipation in colleges springs from excessive allowances of money.

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PREPARATORY SCHOOL

INSTRUCTORS

FRANK HAMSHER, A.B., Principal, History and Civics.
BERTHA M. PILLSBURY, A.M., English Literature and Composition.
JOHN E. MILLER, A.M., Greek and Latin.
ERNEST B. LYTLE, B.S., Mathematics.
MARGARET A. SCOTT, German and French.
WALTER C. LINDLEY, A.B., English Literature and Composition.
CLINE F. DAVIDSON, B.S., Physics and Algebra.
JOHN T. JOHNSON, Natural Sciences.

The Preparatory School is maintained by the University to meet the needs of two classes of students: first, those whose home schools are unable to prepare them for the University; second, those who have been delayed for one reason or another in their school work and now wish to prepare for college in the shortest time consistent with thoroughness. The primary aim of the school is to fit students for the college entrance requirements, and its plan of organization is wholly determined by this purpose. Being in close touch with the University it has special advantages in doing this work. The school, however, has no desire to attract students from towns that support good high schools. It is believed that in such cases it is better for the student to attend his home school. The Preparatory School is maintained by the University, but has a faculty and organization distinctly its own. It is a thorough and progressive secondary school.

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ADMISSION

Candidates for admission must be at least fifteen years of age. Those twenty-one years of age may enter such classes as they are prepared for without examination. All under twenty-one years of age, except those coming from accredited schools (see p. 49) must pass a satisfactory examination in the following subjects:

1. ARITHMETIC.—A thorough knowledge is required of fundamental operations, simple and denominate numbers, the metric system of weights and measures, common and decimal fractions, practical measurements, percentage, ratio and proportion.

2. ENGLISH.—The examination is intended to test the student's vocabulary and his knowledge of grammar.

3. GEOGRAPHY.—An accurate knowledge of physical configuration, political divisions, and important centers of populations, is required.

4. HISTORY.—As a foundation in this subject, a knowledge of the early settlement of North America, and of the growth and development of the United States, is required. A knowledge of the nature and operation of the forces active in American life is desired, rather than the memorization of isolated dates and names.

ENTRANCE should be made at the opening of a semester, but applicants will be admitted at other times on presenting proofs that they are prepared to pursue the selected subjects. Examinations will be held in the rooms of the school, September 9 to 12, 1903, and January 29 to 30, 1904. Examinations on these dates are free, but for special examinations at other times a fee of $3.00 may be charged.

EXAMINATIONS FOR ENTRANCE may be conducted in Illinois by county superintendents of schools in the same manner as for teachers' certificates, and their favorable reports will be accepted. First or second grade teachers' certificates from superintendents of Illinois will be taken for the same purpose.

ADMISSION FROM ACCREDITED SCHOOLS. On the written recommendation of their principals, students from the accredited schools of the University may be admitted without

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entrance examinations and credit will be allowed for all equivalent work already done. Blanks for such recommendations will be sent on application.

COURSE OF STUDY

The curriculum is limited to those subjects which must be, and certain electives which may be, offered for entrance credit. A description of the work undertaken in each of the various subjects may be found on pages 54-62.

The time necessary to complete the requirements for entrance to the University is not fixed, but depends upon the ability and previous training of the student.

COURSE OF INSTRUCTION

FIRST SEMESTER.—Algebra *1; Review Algebra; Plane Geometry 1; Plane Geometry 2; Solid Geometry; English 1; English 3; English 5; Latin 1; Latin 3; Latin 5; Greek 1; Greek 3; German 1; German 3; French 1; French 3; Physics 1; Zoölogy; Physiology; Art and Design 1; English History; Ancient History.

SECOND SEMESTER.—Algebra 1; Algebra 2; Plane Geometry 1; Plane Geometry 2; Solid Geometry; English 2; English 4; English 6; Latin 2; Latin 4; Latin 6; Greek 2; Greek 4; German 2; German 4; French 2; Physics 2; Physiography; Art and Design 1; Art and Design 2; Botany; American History; English History.

REGULATIONS

Reports regarding all students are sent to parents at the close of each semester.

The calendar of the Preparatory School is the same as that of the University.

For information about fees and expenses, see page 300.

For special information with regard to the Preparatory School, address Frank Hamsher, Principal of Preparatory School, Urbana, Ill.

* The figures 1, 2, 3, etc., following subjects indicate the first, second, etc., semester of study of the several subjects; thus, French 1 means beginning French, French 3 the first semester of the second year's work in French

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LIST OF STUDENTS

TECHNOLOGICAL, SCIENTIFIC, AGRICULTURAL, AND LITERARY DEPARTMENTS

GRADUATE SCHOOL

CANDIDATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Coar, Henry Livingston, A. M., (*Harvard Univ.*), 1894, *Urbana,* Mathematics.

Crocker, William, A. B., 1902, *Kewanee,* Botany.

Dehn, William Maurice, A. M., (*Hope Coll.*), 1896, *Champaign,* Chemistry.

Doran, Edwin Wortham, Ph. D., (*Cumberland Univ.*), 1890, *Champaign,* Zoölogy.

Gleason, Harry Allan, B. S., 1901, *Champaign,* Systematic and Geographical Botany.

Miller, John Ezra, A. M., 1902, *Urbana,* Latin.

Mojonnier, Timothy, M. S., 1902, *Urbana,* Chemistry.

Pillsbury, Bertha Marion, A. M., *(Radcliffe Coll.),* 1898, *Urbana,* English.

Reeves, George I, A. B., 1902, *Wauponsee,* General Science.

*Ross, Luther Sherman, M. S., 1900, *Des Moines, Ia.,* Biology of Subterranean Crustaceans.

Sammis, John Langley, M. S., 1899, *Champaign,* Chemistry.

Savage, George Marvin, M. L., 1880, *North Seattle, Wash.,* Economics and History.

Schulz, William Frederick, E. E., 1900, *Baltimore, Md.,* Electrical Engineering.

* In absentia. See page 131.

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CANDIDATES FOR THE MASTER'S DEGREE

*Barclay, Thomas, B. S., 1891, *Ladysmith, B. C.*, Smelting and Refining Processes of the United States; Geology of Ore Deposits.

Bliss, Anson Lee, A. B., (*Austin Coll.*), 1895, *Mt. Vernon*, Pedagogy.

*Booker, Lucile Alice, A. B., 1899, *Stillwater, Minn.*, English.

*Bullard, Samuel Alexander, B. S., 1878, *Springfield*, Architecture.

Bush, John Kenyon, A. B., 1900, *Champaign*, Chemistry.

Calhoun, Henrietta Anne, B. S., 1901, *Champaign*, Preparatory to Medicine.

Clark, Samuel C, S. B., (*Univ. of Chicago*), 1900, *Urbana*, Chemistry.

*Clark, Edwin Besançon, B. S., 1891, *Chicago*, Architecture.

Danely, Mary Golden, A. B., 1902, *Champaign*, History.

Davidson, Cline Flemming, B. S., *(Wabash Coll.)*, 1900, *Champaign*, Chemistry.

Davis, Exum Woodard, A. B., (*Indiana Univ.*), 1898, *Urbana*, History.

Draper, Edwin Lyon, A. B., 1902, *Urbana*, Preparatory to Medicine.

East, Edward Murray, B. S., 1901, *Champaign*, A Chemical Study of the Irish Potato, in View of Breeding it for a Higher Protein Content.

*Emmett, Arthur Donaldson, B. S., 1901, *Chicago*, Chemistry.

Erf, Oscar, B. Sc., (*Ohio State Univ.*), 1899, *Champaign*, Bacteriology.

Fox, Fred Gates, A. B., 1898, *Peru*, English.

Fox, Harry Bert, B. S., 1900, *Urbana*, Geology and Physiography of a Section around Urbana and Champaign.

Fritter Enoch Abraham, A. M. (*Findlay Coll.*), 1898, *Normal*, English.

*Fucik, Edward James, B. S., 1901, *Chicago*, Civil Engineering.

*Gagnier, Edward Duscharm, B. S. (*Mich. Agr'l Coll.*), 1899, *Detroit, Mich.*, Mechanical Engineering.

*Gallaher, Thomas Theron, A. B., 1902, *Byron*, Philosophy.

Garlough, Carl D, A. M., (*Hillsdale Coll.*), 1900, *Stanford*, Mathematics.

Gillespie, Belle Irene, A. B., 1902, *Champaign*, English.

Goble, Roxana, A. B., (*Westfield Coll.*), 1901, *Westfield*, German.

* In absentia. See page 131.

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*Greenman, Edwin Gardner, Jr., B. S., 1902, *Champaign,* Mechanical Engineering.

*Grimes, George Lyman, B. S., 1897, *Ann Arbor, Mich.,* Mechanical Engineering.

Hagedorn, Carl Frederick, A. B., 1902, *Rock Island,* Chemistry.

Harris, Chester Ellis, A. B., 1902, *Ogden,* Physiology.

*Heath, Lawrence Seymour, A. B., 1901, *Edinburg,* Latin.

*Higgins, Francis Whitson, B. S., 1902, *Niagara Falls, N. Y.,* Analytical Chemistry.

*Hoppin, Charles Albert, B. S., 1901, *Milwaukee, Wis.,* Mechanical Engineering.

Horner, Harlan Hoyt, A. B., 1901, *Urbana,* English Literature.

Hughes, Clarence Wilbert, A. B., 1900, *Urbana,* History.

*Jones, Warren, A. B., 1902, *Aurora,* Education.

*Kofoid, Mrs. Prudence Winter, A. B., (*Oberlin Coll.*), 1890, *Berkeley, Cal.,* History.

*Kofoid, Reuben Nelson, A. B., 1902, *Buffalo, N. Y.,* Analytical Chemistry.

Korten, Josephine Ruth, A. B., (*Chicago Univ.*), 1902, *Chicago,* Chemistry.

Laugman, John Oscar, B. S., 1900, *Urbana,* Agriculture.

*Layton, Katherine Alberta, A. B., 1901, *Canton,* German.

Lytle, Ernest Barnes, B. S., 1901, *Urbana,* Mathematics.

*McConnell, Ernest, B. S., 1894, *Denver, Colo.,* Architecture.

McCormick, Flora, B. L., 1894, *Champaign,* History.

*McLane, John Wallace, B. S., 1901, *Washington, D. C.,* Investigation of Soil Moisture.

Malcolm, Charles Wesley, B. S., 1902, *Roseville,* Civil Engineering.

*Mayall, Edwin Lyman, B. S., 1900, *Peoria,* Mechanical Engineering.

*O'Hair, Elizabeth Edna, A. B., 1901, *Laurel, Ind.,* Latin Prose of the Empire.

Parker, Lawrence Gilbert, B. S., 1902, *Toluca,* Civil Engineering.

*Phelps, Albert C, B. S., 1894, *Itaca, N. Y.,* Architecture.

*Pletcher, Nuba Mitchel, A. B., 1901, *Beirut, Syria,* History.

Ponzer, Ernest William, B. S., 1900, *Champaign,* Mathematics.

*Pooley, William Vipond, A. B., 1898, *Galena,* History.

*Radcliffe, William Hickman, B. S., 1901, *Chicago,* Civil Engineering.

*Randall, Dwight T, B. S., 1897, *Chicago,* Mechanical Engineering.

* In absentia. See page 131.

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Rhoads, Emma May, A. B., 1899, *Champaign,* English.
Richardson, Robert Earl, A. B., 1901, *Shipman,* Plankton Zoölogy.
*Richart, Frederick William, B. S., 1891, *Carterville,* Mechanical Engineering.
Rounds, Charles Ralph, Ph. B., (*Univ. of Wis.*), 1901, *Urbana,* English Literature.
*Samson, George Roy, A. B., 1902, *Urbana,* German.
Schroeder, Curt August, B. S., 1901, *Champaign,* Chemistry.
Scott, Frank William, A. B., 1901, *Champaign,* English.
Scudder, Harry Disbro, B. S., 1902, *Chicago,* Agriculture.
*Shamel, Archibald Dixon, B. S., 1898, *Washington, D. C.,* Agricultural Physics.
*Smith, Bruce, A. B., 1901, *Newman,* English Criticism of the 19th Century.
*Smith, Fred John, A. B., 1899, *San Jose,* German.
*Smith, George Russell, B. S., 1900, *Urbana,* Mechanical Engineering.
*Smith, Percy Almerin, B. S., 1901, *Yokahama, Japan,* Mathematics and Physics.
*Soverhill, Harvey Allen, B. S., 1900, *Beloit, Wis.,* Mechanical Engineering.
*Strehlow, Oscar Emil, B. S., 1896, *Tuscaloosa, Ala.,* Civil Engineering.
*Sweney, Don, B. S., 1896, *Galesburg,* Mechanical Engineering.
*Terry, Charles Dutton, B. S., 1897, *Kewanee,* Mechanical Engineering.
*Tower, Willis Eugene, B. S., 1894, *Chicago,* Physics.
*Tull, Effie May, A. B., 1901, *Farmer City,* Latin.
*Waterbury, Leslie Abram, B. S., 1902, *Agricultural College, Mich.,* Civil Engineering.
*Welles, Winthrop Selden, B. S., 1901, *Byron,* Botany.
*Whitmeyer, Mark Halbert, B. S., 1899, *Danville,* Architecture.
*Willcox, Maurice Meacham, B. S., 1899, *Kentwood, La.,* Civil Engineering.
Williams, Elrick, A. B., 1902, *Illiopolis,* Chemistry of Foods.
Willis, Clifford, B. S., 1900, *Urbana,* Agriculture.
*Wood, Harvey Edgerton, A. B., 1900, *Joliet,* Economics.

NOT A CANDIDATE FOR A DEGREE

Boggs, Lucinda Pearl, Ph. D., (*Halle*), 1901, *Urbana,* Experimental Psychology.

* In absentia. See page 131.

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SENIORS

In the list which follows, "L. and A." stands for College of Literature and Arts; "S." for the College of Science.

Abbott, Ruth,	*Chicago,*	Library.
Allen, Edith Louise,	*Delavan,*	General Science.
Allen, Mae Louise,	*Champaign,*	General, L. and A.
Allin, Eugenia,	*Bloomington,*	Library.
Anderson, John Edward,	*Paxton,*	Political Science.
Anderson, Mary,	*Macon,*	Philosophy.
Apple, Charles,	*Robinson,*	Civil Engineering.
Armstrong, James Ellis, A.B., 1897,	*Bondville,*	Agriculture.
Atwood, James Thomas,	*Rockford,*	Mechanical Eng'g.
Baker, Lou,	*LeRoy,*	General Science.
Barker, Perry,	*Rochelle,*	Chemistry.
Barrett, James Theophilus,	*Butler,*	General Science.
Bean, Clarence Herbert,	*Rock Falls,*	Chem. and Eng'g.
Bear, Ernest,	*Urbana,*	Civil Engineering.
Bear, Katherine W,	*Ludlow,*	General, L. and A.
Beaty, Francis Marion,	*Marion,*	General, L. and A.
Beers, Leroy Fitch,	*North Harvey,*	Mechanical Eng'g.
Bennett, Stella,	*Belvidere,*	Library.
Berger, John Milton,	*Dolton Station,*	Prep. to Medicine.
Black, George W,	*Oakland,*	General, L. and A.
Block, Edgar William,	*Sidney,*	Civil Engineering.
Boggs, Mary Lawrence,	*Washington, D. C.,*	Library.
Bond, Annie Louise,	*Mt. Vernon,*	General, L. and A.
Bond, Austin,	*Carmel, Ind.*	Architecture.
Booker, Helen Ethel,	*Champaign,*	General, L. and A.
Boon, Harry Lehre,	*Armstrong,*	General, L. and A.
Borton, Lucina Jane,	*DeLand,*	General, L and A.
Bowman, Gertrude,	*Brimfield,*	Library.
Bradshaw, Jessie Isabelle,	*Chicago,*	General, L. and A.
Briggs, Edwin Cressy,	*Rockford,*	Mechanical Eng'g.
Brotherton, Jane Widney, B. S. *(Shepardson College)*, 1899,	*Delphos, Ohio,*	Library.
Brown, Lewis,	*Rockford,*	Mechanical Eng'g.
Buell, Edward Thomas,	*Chicago,*	Electrical Eng'g.
Buerkin, Marguerite,	*Quincy,*	General, L. and A.
Burkhalter, Wayne Edison,	*Peoria,*	Civil Engineering.
Burkhart, Jean,	*Marion,*	General, L. and A.

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Burrill, Mildred Ann,	*Urbana,*	General, L. and A.
Campbell, Daisy Irene,	*Champaign,*	General, L. and A.
Cattron, John William,	*Fairview,*	Agriculture.
Cavanor, Frank Tracy,	*Chicago,*	General Science.
Chacey, Anna Olive,	*Hillsboro,*	General, L. and A.
Chamberlain, Martin Tuttle,	*Muskegon, Mich.,*	Architec'l Eng'g.
Chapman, Daniel Ward,	*Vienna,*	General, L. and A.
Chisholm, Estella Forth,	*Champaign,*	General, L. and A.
Clark, Matilda Lenna,	*Elvaston,*	General, L. and A.
Clinton, Anna Lucile,	*Polo,*	Library.
Conley, John Edward,	*Arcola,*	Civil Engineering.
Cook, James Fitchie,	*Dundee,*	Mechanical Eng'g.
Crosthwait, George Ashley,	*Urbana,*	Agriculture.
Cummings, Ruth Rozelle, A. B. *(Washington Univ.)*, 1901,	*St. Louis, Mo.,*	Library.
Cusick, John Fay,	*Chrisman,*	Philosophy.
Dake, LeRoy Gilbert,	*Harvard,*	General, L. and A.
Danahey, Thomas Francis,	*Quincy,*	General, L. and A.
Daniels, Edna Earle,	*Danville,*	Library.
Darlington, Genevieve,	*LaGrange,*	Library.
Davis, Wilmer Esla,	*Zanesville, Ohio,*	General Science.
Dawson, Charles Hubbard,	*Bement,*	General, L. and A.
DeMotte, Roy James,	*Urbana,*	General Science.
Dickerson, George Hamm,	*Mahomet,*	Mechanical Eng'g.
Dickerson, Oliver Morton,	*West Liberty,*	Political Science.
Dodge, Bertha Alma, A.B. *(Tuft's College)*, 1901.	*Williamsville, Vt.,*	Library.
Dolkart, Leo,	*Chicago,*	Electrical Eng'g.
Douglass, Donald Pierson,	*Colfax,*	Agriculture.
Drake, Jeannette Mae,	*Decatur,*	Library.
Drury, Ralph Southward,	*New Boston,*	Mechanical Eng'g.
Duffy, James Franklin, Jr.,	*Chicago,*	Electrical Eng'g.
Dunkin, William Van,	*Urbana,*	Mechanical Eng'g.
Eidmann, Gustav Herman,	*Mascoutah,*	Agriculture.
Etherton, William Alonzo,	*East St. Louis.*	Architect'l Eng'g.
Fisher, Clara Edna,	*Champaign,*	General, L. and A.
Fiske, Clarence Wilson,	*Sterling,*	Mechanical Eng'g.
Forbes, Ethel Clara Schumann,	*Urbana,*	General, L. and A.
Forbes, Marjorie Douglas,	*Urbana,*	General, L. and A.
Franklin, Lois Gertrude,	*Dwight,*	General, L. and A.
French, Maurice Deen,	*Danville,*	Electrical Eng'g.

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Gage, Ralph Hawes,	*Chicago,*	Civil Engineering.
Garden, Henry Rhiel,	*Lockport,*	Civil Engineering.
Garver, Willia Kathryn,	*Bloomington,*	Library.
Gaston, Ralph Mayo,	*Normal,*	Electrical Eng'g.
Gilkerson, Frances Emeline,	*Urbana,*	General, L. and A.
Gold, Katharine Eaton,	*Chicago,*	Library.
Goodale, Grace,	*Cincinnati, Ohio,*	Library.
Goodman, Herbert Marcus,	*Chicago,*	General Science.
Green, Charles Henry,	*Sterling,*	Mechanical Eng'g.
Green, Clarence,	*Lawrenceville,*	General, L. and A.
Habermeyer, George Conrad,	*Aurora,*	Civil Engineering.
Hagey, Emma Joanna, A.B., *(Univ. of Nebraska)*, 1898,	*Norfolk, Neb.,*	Library.
Haight, Samuel John, Jr.,	*Mendota,*	Agriculture.
Harris, Thaddeus Sidney,	*Modesto,*	General Science.
Hauter, Joseph Elmer,	*Tiskilwa,*	General, L. and A.
Hawley, Edna May,	*Chicago,*	Library.
Hayhurst, Emery Roe,	*Maywood,*	Prep. to Medicine.
Hayward, Mabel,	*Chicago,*	Library.
Heath, Lillian,	*Whiteheath,*	General, L. and A.
Henderson, Mary,	*Cedar Rapids, Ia.,*	Library.
Herrick, Lyle George,	*Farmer City,*	General, L. and A.
Higgins, Charles Huntington,	*Quincy,*	Chemistry.
Hoff, Edna DuBois,	*Chicago Heights,*	Education, S.
Holder, Vernon Milner,	*Normal,*	Architecture.
Holderman, Marjorie Campbell,	*Urbana,*	General, L. and A.
Huntington, Ellen Alden,	*Hartford, Conn.,*	Household Sc'nce.
Huntoon, John Samuels,	*Moline,*	Civil Engineering.
Ingersoll, Frank Bruce,	*Sterling,*	Civil Engineering.
Inks, Frank Emerson,	*Ohio,*	General Science.
Ireland, Washington Parker,	*Chicago,*	Civil Engineering.
Jackson, Fanny Rebecca, A. B. *(Rockford Coll.)*, 1896,	*Janesville, Wis.,*	Library.
Jarman, Henry Phelps,	*Elmwood,*	Chemistry.
Jennings, Anna Vivian,	*Davenport, Neb.,*	Library.
Johnson, Albert Myron,	*Kishwaukee,*	Mechanical Eng'g.
Johnson, Frederick Dawson,	*Alton,*	Railway Engineering.
Jones, Lucile,	*Chicago,*	General, L. and A.
Kelly, Grace Osgood,	*Muskegon, Mich.,*	Library.
Kennedy, Helen Theresa,	*Jacksonville,*	Library.
Ketzle, Henry Benjamin,	*Reynolds,*	Mechanical Eng'g.
Kingston, Elwood Almon,	*Picton, Ont.,*	General Science.

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Knowlton, William David,	*Onarga,*	General Science.
Kuss, Robert Hayden,	*Peoria,*	Mechanical Eng'g.
Kutsch, William Adelbert,	*LaSalle,*	Chem. and Eng'g.
Langworthy, Caroline Valeria,	*Dubuque, Ia.,*	Library.
Larson, Lawrence Fred,	*Galva,*	Political Science.
Lefler, Emma Grace,	*Pontiac,*	Library.
Lentz, Mary,	*Freeport,*	General, L. and A.
LeSourd, Alfred Curtis,	*Topeka,*	Civil Engineering.
Lloyd, Robert Clinton,	*Canton,*	Agriculture.
McFarland, James Albert,	*Mendota,*	Chemistry.
McRobie, Isabel,	*Chicago,*	Latin.
Mann, Alice Calhoun,	*Danville,*	Library.
Marker. George Edward,	*Onarga,*	Philosophy.
Matthews, Mary Alice,	*Mayview.*	Library.
Merrill, Julia Wright,	*Cincinnati, Ohio,*	Library.
Mills, Ralph Garfield,	*Decatur,*	General Science.
Morgan, Stella Webster,	*Burlington, Ia.,*	Eng. and Mod. Lang.
Myers, Winifred,	*Champaign,*	General, L. and A.
Nelson, Charlotte Briggs, A.B., *(Vassar Coll.)*, 1902,	*Bloomington,*	Household Science.
Nesbit, Mary Frances,	*Oakland,*	General Science.
Noble, Thomas,	*Urbana,*	Agriculture.
Oxer, George Carl,	*Macon,*	Electrical Eng'g.
Park, William Mansfield,	*Urbana,*	Mechanical Eng'g.
Parker, Roy Sheldon,	*Toluca,*	General, L. and A.
Parr, Robert William,	*Mapleton,*	General, L. and A.
Peterson, Christian Peter Lauritz,	*Roskilde, Denmark,*	Civil Eng'g.
Powers, George Augustus,	*Edinburg,*	General, L. and A
Prater, Banus Hutson,	*Decatur,*	Civil Engineering.
Price, Hugh Mitchel,	*Urbana,*	Civil Engineering.
Provine, Loring Harvey,	*Macomb,*	Architecture.
Quayle, Henry Joseph,	*Champaign,*	General Science.
Ramsey, William Everton, A. B., *(Chicago Univ.)*, 1901,	*Chicago,*	Architectural Eng'g.
Randall, Bertha Thatcher, B. L., *(Smith College)*, 1893,	*Decatur,*	Library.
Ranson, Clara Ann,	*Havana,*	General, L. and A.
Readhimer, Jerome Edward,	*Champaign,*	Agriculture.
Richey, John Jefferson,	*Polo,*	Civil Engineering.
Rightor, Fred Elmer,	*Rockford,*	Civil Engineering.

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Rolfe, Susie Farley,	*Champaign,*	General Science.
Rose, Fred Wayland,	*Mason,*	Electrical Eng'g.
Rutt, Roy Weaver,	*Sterling,*	Mechanical Eng'g.
Sawyer, George Loyal,	*Chicago,*	Municipal Eng'g.
Schacht, John Henry,	*Moline,*	Architecture.
Schmidt, Gustavus Adolphus,	*Chicago,*	General Science.
Seymour, Budd Willard,	*Dwight,*	Civil Engineering.
Sheldon, Maude Lillian,	*Sharpsburg,*	General Science.
Sheldon, Victor Lorenzo,	*Sharpsburg,*	Mechanical Eng'g.
Shelton, Addison M,	*Loami,*	Political Science.
Shoemaker, John Earl,	*Charleston,*	Philosophy.
Siler, Roderick William,	*Chicago,*	Civil Engineering.
Simpson, Frances, M. L., *(North Western Univ.)*, 1898,	*Evanston,*	Library.
Skinner, Elgie Ray,	*Frankfort, Ind.,*	Mech. Eng'g.
Smith, Charles Henry,	*Metamora,*	General, L. and A.
Smith, Charles Wesley,	*Lockwood, N. Y.,*	Lib., L. and A.
Spriggs, John Jack,	*Louisville,*	General, L. and A.
Stansbury, Alta Louise,	*Cedar Rapids, Ia.,*	Library.
Stedman, Jeannette,	*Champaign,*	Music.
Steinwedell, Carl,	*Quincy,*	Chemistry.
Stevens, Lucia Alzina,	*Marengo,*	General, L. and A.
Stine, John Carl,	*Assumption,*	General Science.
Storey, Ellsworth Prime,	*Chicago,*	Architecture.
Street, Marietta Louise,	*Dixon,*	Library.
Stuebe, Leonard Fred,	*Danville,*	Architecture.
Stutsman, Ada Helen,	*Quincy,*	General, L. and A.
Sussex, James Wolfe,	*Abingdon,*	Civil Engineering.
Swezey, Anne Davies,	*Hinsdale,*	Library.
Vance, Edna Cecilia,	*Eaton,*	Library.
Varnes, Albert Grafton,	*Farmington,*	Civil Engineering.
Walcott, Lloyd Vernon,	*Urbana,*	General, L. and A.
Wallace, Jacob H,	*Altamont,*	Mechanical Eng'g.
Wardall, Ruth Aimee,	*Tuscola,*	Household Science.
Webber, Pearl,	*Urbana,*	General, L. and A.
Welles, Miriam Ursula,	*Dover,*	General Science.
Wells, Fred Mason,	*Moline,*	Agriculture.
Westhold, Hannah Amanda,	*Quincy,*	General, L. and A.
Whitsitt, Hammond William,	*Preemption,*	Architecture.
Wiley, Vonie Ames,	*Charleston,*	Library.
Wilson, George Shirley,	*Magnolia,*	General Science.

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Wilson, Joseph Wade,	*Chicago,*	Architecture.
Woodmansee, Ralph Collum,	*Champaign,*	Library.
Woodworth, Metta Edna,	*Champaign,*	General, L. and A.
Worth, Lynn Griswold,	*Chicago,*	Library.
Yates, Thomas,	*Dubuque, Ia.,*	Civil Engineering.
Zangerle, Arthur Norman,	*Chicago,*	Chemistry.
Zartman, Lester William,	*Grant Park,*	Political Science.

JUNIORS

Abell, Ralph Elliott,	*Elgin,*	Architecture.
Aldrich, Blanche,	*Normal,*	General, L. and A.
Allen, Arthur William,	*Peoria,*	Architectural Eng'g.
Armeling, Carl Elmer,	*Mason City,*	Classical.
Armstrong, Gertrude Maud,	*Champaign,*	General, L. and A.
Askins, Adolphus Edward,	*Lakewood,*	Civil Engineering.
Baer, David Arthur,	*Good Hope,*	Electrical Eng'g.
Bailey, Walter Thomas,	*Kewanee,*	Architecture.
Ballard, William Salisbury,	*Batavia,*	General Science.
Ballinger, Ralph Adams,	*Keokuk, Ia.,*	Mechanical Eng'g.
Barnes, Charlotte,	*Manitowoc, Wis.,*	Library.
Barnhart, Charles Anthony,	*Mansfield,*	Math. and Physics.
Barr, Susan Jessie,	*Urbana,*	Household Science.
Barter, Harold Hendryx,	*Chicago,*	Mechanical Eng'g.
Bauer, Ralph Stanley,	*Champaign,*	Classical.
Benson, Arthur Chapman,	*Vienna,*	General, L. and A.
Bevans, Mary Matilda,	*Decatur,*	Library.
Blackburn, Roy Jabez,	*Decatur,*	Civil Eng'g.
Blocher, George Douglas,	*Amboy*	General, L. and A.
Bond, Bertha Julia,	*Charleston,*	Library, L. and A.
Bonnell, Everett Shannon,	*LaMoille,*	Electrical Eng'g.
Booth, Mary Josephine, A. B. *(Beloit College)*, 1900,	*Beloit, Wis.,*	Library.
Borton, Byron Sarver,	*DeLand,*	General, L. and A.
Boucher, Andrew Sherman,	*Murphysboro,*	General, L. and A.
Bourne, Lemuel Harold,	*Amboy,*	General, L. and A.
Braun, Walter Charles Emil,	*Chicago,*	Chemistry.
Browder, Olin Lorraine,	*Mt. Vernon,*	General, L. and A.
Brown, Seymour Dewey,	*Chicago,*	Civil Eng'g.
Brunner, Camilla Margaret,	*Peru,*	General, L. and A.
Buchanan, John Lee,	*Lacon,*	Electrical Eng'g.
Buck, Gertrude Amelia,	*Plattsville, Wis.,*	Library.

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Burford, Cary Clive,	*Hoopeston,*	General, L. and A.
Burgess, Fred Henry,	*Monticello,*	Civil Eng'g.
Burgess, Ralph Royal,	*Monticello,*	Architecture.
Cafky, Mabel Etta,	*Jacksonville,*	Library.
Calhoun, Helen Vera,	*Champaign,*	Library, L. and A.
Campbell, Muriel Florence,	*Champaign,*	General, L. and A.
Carriel, Fred Clifford,	*Jacksonville,*	Railway Eng'g.
Cass, Sherman,	*Cerro Gordo,*	General Science.
Caton, Charles Hull,	*Ottawa,*	General, L. and A.
Cayou, Francis Mitchell,	*Arcola,*	Electrical Eng'g.
Chapin, Lucy,	*Champaign,*	General, L. and A.
Chester, Anna,	*Champaign,*	General, L. and A.
Clark, Angie Ray,	*Chicago,*	English.
Clark, Gilbert Barton,	*Chicago,*	General, L. and A.
Clarkson, Edna,	*Carthage, Mo.,*	Library.
Cobb, Scott Ewing,	*Galesburg,*	Mechanical Eng'g.
Conard, Clyde,	*Monticello,*	Agriculture.
Coolidge, Orrill Pauline,	*Niles, Mich.,*	Library.
Coy, Alice Bourland,	*College Hill, Ohio,*	Library.
Cresap, Trella Jane,	*Cushman,*	General, L. and A.
Dadant, Henry Camille,	*Hamilton,*	Civil Eng'g.
Davis, Cleon Leslie,	*Mt. Zion,*	Civil Eng'g.
Davis, John Wolfersperger,	*Sterling,*	Civil Eng'g.
Day, Herbert Winch,	*Rockford,*	Electrical Eng'g.
Dayton, Laura,	*Paris,*	General, L. and A.
Deutschmann, Fred John, Jr.,	*Belleville,*	Civil Eng'g.
Dewey, James Ansel, M. S., 1898,	*Urbana,*	Agriculture.
Dickey, Cromwell Bartlett,	*LaGrange,*	Chem. and Eng'g.
Dickson, Helen Sarah,	*Gilman,*	Library.
Diefenbach, Arthur Garfield,	*Blue Island,*	Electrical Eng'g.
Diener, Walter Gustav,	*Chicago,*	Electrical Eng'g.
Dillon, Mertie May,	*Normal,*	General, L. and A.
Dirks, Henry Bernhard,	*Chicago,*	Mechanical Eng'g.
Doeden, Frederick Hugo,	*Eureka,*	General, L. and A.
Dorman, Archie Bland,	*Taylorville,*	General, L. and A.
Dorsey, Clarence Benson,	*Moro,*	Agriculture.
Durland, Clyde Earl,	*Flora,*	Civil Eng'g.
Edwards, Charles,	*Peru,*	Chemistry.
Eidam, Edward George,	*Blue Island,*	Mechanical Eng'g.
Eide, Torris,	*Lee,*	Civil Eng'g.
Elder, Ralph Maxwell,	*Hamilton,*	Civil Eng'g.

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Engstrom, Roy Victor,	*Peoria,*	Municipal Eng'g.
Ericson, Lambert Theodore,	*Moline,*	Civil Eng'g.
Ernest, Roy Alfred,	*Urbana,*	Electrical Eng'g.
Errett, Albert Widney, Jr..	*Kewanee,*	Mechanical Eng'g.
Evans, Kenneth Neill,	*Taylorville,*	General, L. and A.
Ewing, Charles Edwin,	*Decatur,*	Civil Eng'g.
Flagg, Samuel Barry,	*Alton,*	Mechanical Eng'g.
Fleming, Clarence Earl,	*Delavan,*	General, L. and A.
Fletcher, Carl Joshua,	*Galesburg,*	Electrical Eng'g.
Ford, Ernest Jason,	*Prairie Center,*	Prep. to Medicine.
Foster, Caroline Katharine,	*Pittsburg, Pa.,*	Library.
Frankenberg, Pearle,	*Urbana,*	Library.
French, Burton,	*Chicago,*	Electrical Eng'g.
Fyfe, Isabella,	*St. Joseph, Mich.,*	Library.
Garnett, Elmer Logan,	*St. Mary's,*	Business, L. and A.
Gaston, Newton David,	*Peoria,*	Mechanical Eng'g.
Gengler, Wilbert,	*Sandwich,*	Chemistry.
Gibbs, Charles Henry,	*Princeton,*	Civil Eng'g.
Gibbs, Charlotte Mitchell,	*Champaign,*	General, L. and A.
Gillham, Philip Dakin,	*Princeton,*	Civil Eng'g.
Gilmour, Joseph Coleman,	*Biggsville,*	Civil Eng'g.
Ginzel, Carl Louis,	*Trenton,*	Civil Eng'g.
Glen, Helen,	*Alton,*	Library.
Glassco, Paul Bond,	*Charleston,*	Architectural Eng'g.
Gorham, Josiah,	*Champaign,*	Chemistry.
Gramesly, Margaret Amidon,	*Charleston,*	Library.
Greene, Elizabeth Grosvenor,	*Tokio, Japan,*	Library.
Greene, Hibbard Spencer,	*Lisle,*	Electrical Eng'g.
Greene, Mabel, Pd., M., (*New York City Univ.),* 1892,	*Florida, N. Y.,*	Library, L. and A.
Greenwood, Harris Paul,	*Edwardsville,*	Civil Eng'g.
Hadden, Samuel Cornelius,	*Mason,*	Civil Eng'g.
Hadfield, Frank Stanley,	*Chicago,*	Mechanical Eng'g.
Harpole, Byron,	*Indianapolis, Ind.,*	Electrical Eng.
Haviland, Altha,	*Addison, Ia.,*	General, L. and A.
Hawes, Charles Wesley,	*Rock Island,*	Mechanical Eng'g.
Hawkins, Anna de Zeng,	*Arcola,*	General, L. and A.
Hawthorne, Elizabeth Lena,	*LaPlace,*	Philosophy.
Henry, Smith Tompkins, Jr.,	*Bushnell,*	Municipal Eng'g.
Hess, Mrs. Gertrude Fox,	*Columbus, Ohio,*	Library.
Hewerdine, Thomas Sloan,	*Fisher,*	Civil Eng'g.

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Hewitt, Nellie Goodwin, A.B., *(Wells College)*, 1898,	*Indianapolis, Ind.*,	Library.
Hilliard, Frank Wyman,	*Brighton*,	Electrical Eng'g.
Hilts, Roy Wilson,	*Bloomington*,	Chemistry.
Holch, Fred Leidy,	*Gilman*,	General, L. and A.
Holcomb, Clarence Eugene,	*Milmine*,	Electrical Eng'g.
Holcomb, Timothy Osmond, Jr.,	*Milmine*,	Business, L. and A.
Holderman, Harriet,	*Morris*,	Library.
Hopkins, Edna, A. B., *(Univ. of (Cincinnati)*, 1902,	*Cincinnati, Ohio*,	Library.
Horr, Ray Leekley,	*Galena*,	Electrical Eng'g.
Howe, Ralph Barnard,	*Urbana*,	Agriculture.
Hunt, Mabel Dorothy,	*Urbana*,	General, L. and A.
Hyde, Sophie,	*Chicago*,	General, L. and A.
Jackson, Charlotte May,	*Ithaca, N. Y.*,	Library.
Jacobs, Manuel Joseph,	*Chicago*,	Civil Eng'g.
Janssen, Otto,	*Los Angeles, Cal.*,	Architecture.
Johnson, William Chance,	*Champaign*,	Civil Eng'g.
Karnopp, Edwin Benjamin,	*Champaign*,	Civil Eng'g.
Kelly, David Henry,	*El Paso, Texas*,	Electrical Eng'g.
Kimmel, Howard Elihu,	*DuQuoin*,	General, L. and A.
King, Leila Pauline,	*Rockford*,	Library.
Kircher, Harry Bertram,	*Belleville*,	Electrical Eng'g.
Knapp, Noah,	*Hindsboro*,	Philosophy.
Kneeland, Frank Hamilton,	*Dwight*,	Mechanical Eng'g.
Koehn, Martha Caroline,	*Menominee, Mich.*,	Gen.,L. and .A
Kreisinger, Henry,	*Champaign*,	Mechanical Eng'g.
Lease, Leonard John,	*Nokomis*,	Electrical Eng'g.
Leverton, Ernest Richard,	*Warren*,	Mechanical Eng'g.
Logeman, Albert Edwin,	*Ravenswood*,	Mechanical Eng'g.
Lonergan, Charles Augustus,	*Polo*,	Civil Eng'g.
Loosley, Frederick Edwin,	*Rock Island*,	Mechanical Eng'g.
Lucas, Rena Avis,	*Monterey, Mexico*,	Library.
McCarter, Daniel,	*Dwight*,	General, L. and A.
McCarthy, John James,	*Chicago*,	Library.
McCarty, John,	*Tuscola*,	Agriculture.
McClelland, Robert Alexander, Jr.,	*Yorkville*,	Agriculture.
McCulloch, Isabella Jane, B. L., *(Univ. of Wisconsin)*, 1897.	*Janesville, Wis.*,	Library.
McCullough, John Fred,	*Centralia*,	Electrical Eng'g.

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McIlhenny, Mary Elizabeth,	*Macomb,*	General Science.
McKnight, William Asbury,	*Ingraham,*	Municipal Eng'g.
MacLochlin, Virginia,	*Danvers,*	Library.
McMillan, Neil, Jr.,	*Chicago,*	Architecture.
McMurry, Karl Franklin, A. B., 1902,	*Normal,*	Agriculture.
Mangas, Maud,	*Lincoln,*	General, L. and A.
Manspeaker, Pearle,	*Champaign,*	General, L. and A.
Mark, Elvira Ellen,	*Decatur,*	General Science.
Marsh, George Requa,	*Marseilles,*	Agriculture.
Marsh, Thomas Alfred,	*Loda,*	Mechanical Eng'g.
Marsh, Wallace Hickling,	*Marseilles,*	Civil Eng'g.
Marshall, Mabel E,	*Gaylord, Mich.,*	Library.
Mason, Julia Anabel,	*Sullivan, Ind.,*	Library.
Mead, Clarence Eugene,	*Chillicothe,*	Electrical Eng'g.
Mercer, Iva Esther,	*Centralia,*	General, L. and A.
Miller, Fanny Elliott,	*Oak Park,*	Library.
Miller, Fred Charles,	*Peoria,*	Architecture.
Mills, Floyd Earl,	*McNabb,*	Civil Eng'g.
Miner, Aaron W,	*Adair,*	Agriculture.
Miskimen, William Anderson,	*Hoopeston,*	Mechanical Eng'g.
Mofet, William Raynor,	*DeKalb,*	General Science.
Moore, Erma Jane,	*Vanlue, Ohio,*	Library.
Morse, Henry Charles,	*Chandlerville,*	Civil Eng'g.
Muhl, Fred Lewis,	*Bloomington,*	Architecture.
Munsen, Andrew,	*Henry,*	Civil Eng'g.
Murphey, Howard Bruce,	*Farmer City,*	Civil Eng'g.
Nabstedt, Frederick,	*Davenport, Ia.,*	Electrical Eng'g.
Niedermeyer, Frederick David,	*Decatur,*	General, L. and A.
Noe, Samuel Rufus,	*Auburn,*	General, L. and A.
Northey, Della Frances, Ph.B., *(Iowa Univ.),* 1898.	*Dubuque, Ia.,*	Library.
Outhouse, Fred Myrine,	*Lily Lake,*	General, L. and A.
Paine, Mattie May,	*Rosemond,*	General, L. and A.
Parks, Mrs. Allie V.,	*Urbana,*	General, L. and A.
Parrett, William Gaylord,	*Newport, Ind.,*	Civil Eng'g.
Patterson, Maud May,	*Rochelle,*	Math. and Physics.
Pearson, Ida May,	*Pontiac,*	Household Science.
Perry, Mabel,	*Ann Arbor, Mich.,*	Library.
Peterson, John Frederick,	*Kewanee,*	Civil Eng'g.
Phillips, Eugene Martin,	*Damascus,*	General Science.

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Pierce, Inez Charlotte,	*Portland, Ind.,*	Library.
Pilcher, Lela Gretchen,	*Greencastle, Ind.,*	General Science.
Pinkum, Anna Shaw, B.L., *(Univ. of Wis.)*, 1899,	*Eau Claire, Wis.,*	Library.
Polk, John Luther,	*Champaign,*	General, L. and A.
Popejoy, Lida Elizabeth,	*Lexington,*	General, L. and A.
Powers, Aura Edith,	*Oshkosh, Wis.,*	Library.
Railsback, Lee Willard,	*Hopedale,*	General, L. and A.
*Reed, Ethel Augusta,	*Minneapolis, Minn.,*	Library.
Reef, Augustus Joseph,	*Carbondale,*	Civil Eng'g.
Rich, Claud Winferd,	*Cobden,*	General, L. and A.
Richards, Llewellyn Sylvester,	*Chicago,*	Mechanical Eng'g.
Ricker, Ethel,	*Urbana,*	Architecture.
Riddle, Rollo Gaun,	*Mattoon,*	Agriculture.
Riehl, Anna,	*Alton,*	Household Science.
Riley, George Albert,	*Lewistown,*	Electrical Eng'g.
Rodman, Charles Scamon,	*Moweaqua,*	General, L. and A.
Ross, Robert Malcolm,	*Chicago,*	Prep. to Medicine.
Roulston, Robert Bennett,	*Chicago,*	Civil Eng'g.
Royall, Charles Crecy,	*Clay Center, Kas.,*	Gen., L. and A.
Royce, Bertha Ella,	*Westfield, N. Y.,*	Library.
Rump, Guy Henry,	*Quincy,*	Civil Eng'g.
Samson, Inez Rose,	*Urbana,*	General, L. and A.
Sawyer, John Henry,	*Charleston,*	General Science.
Schaefer, Ellen Mary,	*Cambridge City, Ind.,*	Library.
Schreiber, Rudolph Ernst,	*Chicago,*	General, L. and A.
Seibel, Karl Bird,	*Princeton,*	Business, L. and A.
Seymour, Arthur Platt,	*Henning,*	Agriculture.
Sheldon, Carrie Belle, Ph.B., *(Ottawa Univ.)*, 1901,	*Ottawa, Kas.,*	Library.
Sheldon, Charles Harper,	*Kewanee,*	Mechanical Eng'g.
Sheldon, Edna Weaver,	*Urbana,*	Library.
Shilton, Carlyle Nance,	*Kewanee,*	Prep. to Medicine.
Shinn, James Ricketts,	*Mattoon,*	Agriculture.
Sides, Aimee May,	*Champaign,*	General, L. and A.
Simpson, Carl William,	*Quincy,*	Civil Eng'g.
Sitler, Anna Louise,	*Newton, Ia.,*	Library.
Slocum, Mary Jane,	*Urbana,*	General Science.
Smith, Harry Wilber,	*Abingdon,*	Mechanical Eng'g.

* Deceased.

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Smith, Henry William,	*Arcola,*	General Science.
Smith, Kenneth Gardner, A.B., *(Chicago Univ.)*, 1896,	*Dixon,*	Mechanical Eng'g.
Smith, Mary Ladd, A. B. *(Kansas State Univ.)*, 1902,	*Lawrence, Kas.,*	Library.
Sommer, Clara Louise,	*Chicago,*	General, L. and A.
Sonntag, Mildred Eliza,	*Plainfield,*	General, L. and A.
Sparks, Annie Elnora,	*Urbana,*	Classical.
Staley, Isabel,	*Champaign,*	General, L. and A.
Standard, Alphonso Perry,	*Lewistown,*	Prep. to Medicine.
Starr, Helen Knowlton, A.B., *(Iowa Coll.)*, 1901,	*Algona, Ia.,*	Library.
Stedman, Angeline Jones,	*Champaign,*	General, L. and A.
Stenger, John William,	*Mendota,*	Mechanical Eng'g.
Stephenson, Lewis Alva,	*Redmon,*	Mechanical Eng'g.
Stewart, Robert Jaques,	*Urbana,*	Mechanical Eng'g.
Stone, Charles Newhall,	*Quincy,*	Mechanical Eng'g.
Stookey, Helen Florence,	*Harristown,*	General, L. and A.
Strehlow, Cornelia Emma,	*Shermerville,*	General, L. and A.
Stroud, Smith Leroy,	*Eureka,*	Civil Eng'g.
Sweet, Belle,	*Clinton, Ia.,*	Library.
Taylor, Elsie Mae,	*Hayes,*	Mathematics.
Taylor, George Graham,	*Taylorville,*	General, L. and A.
Taylor, John Orlo,	*Champaign,*	Electrical Eng'g.
Thompson, Sherman,	*Warrensburg,*	Architecture.
Timm, Peter Frederick William,	*Tuscola,*	Electrical Eng'g.
Travis, Roy Elmer,	*Assumption,*	Civil Eng'g.
Trimble, Clara Eugenia,	*Champaign,*	General, L. and A.
Turner, Charles Philip,	*Butler,*	Mechanical Eng'g.
Tuttle, Frances Margaret, A.B., *(Albion Coll.)*, 1898,	*Albion, Mich.,*	Library.
Vance, Mahlon Smith,	*Eaton,*	General Science.
Vanhorne, George Garret,	*Rockford,*	Electrical Eng'g.
Vawter, John Terrell,	*Vawter Park, Ind.*.	Architecture.
Waldo, Marie L, B. S., 1900,	*Champaign,*	Library.
Ward, Harry Amos,	*Galesburg,*	Architectural Eng'g.
Wasson, Ora Elmer,	*Chrisman,*	General Science.
Weeks, Harry William, A.B., *(Lombard Coll.)*, 1900,	*Peoria,*	Mechanical Eng'g.
Wehmeier, William Henry,	*Alton,*	Electrical Eng'g.
White, Anna David,	*Chicago,*	Library.

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White, Caroline Louise,	*Warrensburg,*	General, L. and A.
White, Edna Noble,	*Fairmount,*	Prep. to Medicine.
Wilcox, Burton B,	*Kewanee,*	Chemistry.
Wiley, Carroll Carson,	*Bethany,*	Civil Eng'g.
Wiley, Wallace Kenneth,	*Peoria,*	Mechanical Eng'g.
Williams, Mary Edith,	*Urbana,*	General, L. and A.
Wilson, Charles Gorham,	*Marengo,*	General, L. and A.
Wilson, LeRoy C,	*Princeton,*	Agriculture.
Wilson, William LeRoy,	*Springfield,*	Civil Eng'g.
Wing, Alice Louise,	*Ludington, Mich.,*	Library.
Woodin, Norman Charles,	*Rock Island,*	Mechanical Eng'g.
Worker, Joseph Garfield,	*Davenport, Ia.,*	Mechanical Eng'g.
Worrell, Joseph Carl,	*Chili,*	Civil Eng'g.
Worthen, Ella Eugenia,	*Warsaw,*	Philosophy.
Wright, Ida Faye,	*Evanston,*	Library.
Wyeth, Ola May,	*Charleston,*	General, L. and A.
Wyle, Florence Helen,	*Waverly,*	General Science.
Yocum, Earl Layton,	*Galva,*	General, L. and A.

SOPHOMORES

Abrams, Duff A,	*Murphysboro,*	Civil Eng'g.
Anders, Edwin,	*Newark,*	General, L. and A.
Armstrong, Charles Edward,	*Mound City,*	Electrical Eng'g.
Ashmore, James Newton,	*Bethany,*	General, L. and A.
Atlass, Goldie May,	*Decatur,*	General, L. and A.
Aumer, Joseph Paul,	*Peoria,*	Chemistry.
Bailey, Albert Williams,	*Stewardson,*	General, L. and A.
Bailey, Thomas Stanley,	*Vincennes, Ind.,*	Chemistry.
Baker, Cecil Franklin,	*Champaign,*	Architecture.
Baker, Imo Estella,	*Champaign,*	General, L. and A.
Baker, Ira Webster,	*Champaign,*	General, L. and A.
Ballou, Frederick Herbert,	*Wheaton,*	Electrical Eng'g.
Bascom, George Rockwell,	*Chicago,*	Civil Eng'g.
Bass, Willard Jason,	*Canton,*	Mechanical Eng'g.
Bates, Patrick Francis,	*Savoy,*	Civil Eng'g.
Bear, Fred Gamble,	*Farmington,*	Electrical Eng'g.
Beasley, Fred Edward,	*Peoria,*	Mechanical Eng'g.
Beauford, May Alice,	*Oak Park,*	Classical.
Beck, Charles,	*Harvey,*	Mechanical Eng'g.
Betts, David Roy,	*Springfield,*	Mechanical Eng'g.
Blair, Franklin Irving,	*Compton,*	Civil Eng'g.

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Blair, Thomas Hart,	*Kewanee,*	Mechanical Eng'g.
Boggs, Fred Stanley,	*Urbana,*	Music.
Bond, John Myron,	*Champaign,*	Mechanical Eng'g.
Boner, Halbert Evans,	*Wolcott, Ind.,*	Mechanical Eng'g.
Born, Alda Holderman,	*Champaign,*	General, L. and A.
Boston, Roy Woods,	*Yorkville,*	General, L. and A.
Bowser, Ralph Emmett,	*Bishop,*	Electrical Eng'g.
Boyle, John Marshall,	*Roberts,*	General, L. and A.
Braden, Clarence Arthur,	*Cutler,*	Agriculture.
Bradley, Tirzah Ozilla,	*Blue Mound,*	General, L. and A.
Bronson, Frank Lloyd,	*Streator,*	Prep. to Medicine.
Brookings, Clara Allan,	*DuQuoin,*	General, L. and A.
Brown, Arthur Charles,	*Champaign,*	General, L. and A.
Bryan, Helen Gordon,	*Champaign,*	General, L. and A.
Brydges, Carl Kent,	*Elgin,*	Electrical Eng'g.
Bullard, Helen Elizabeth,	*Springfield,*	General, L. and A.
Burggraf, Carl Irven,	*Tuscola,*	Civil Eng'g.
Burnett, William Thomas,	*Urbana,*	Electrical Eng'g.
Burr, Elizabeth Hal,	*Champaign,*	Library, L. and A.
Burroughs, Guy Chaney,	*Oregon,*	Architecture.
Burwash, Lois Irene,	*Champaign,*	General Science.
Busey, Mary,	*Urbana,*	Music.
Butler, Besse Nola,	*Angola, Ind.,*	Library, L. and A.
Camp, Cara Louis,	*Lincoln,*	Civil Eng'g.
Campbell, Homer W,	*Pecatonica,*	Civil Eng'g.
Capen, Bernard Charles,	*Bloomington,*	Agriculture.
Carey, William Joseph,	*Ivesdale,*	General, L. and A.
Carleton, Bertha M,	*Champaign,*	General, L. and A.
Casserly, Thomas David,	*Champaign,*	Mechanical Eng'g.
Caswell, Julia Ethele,	*Cairo,*	General, L. and A.
Caton, William Hull,	*Ottawa,*	Civil Eng'g.
Center, Orlo Dorr,	*Ottawa,*	Agriculture.
Chapin, George,	*Champaign,*	Business, L. and A.
Charles, Paul Lamont,	*Woodstock,*	Mechanical Eng'g.
Clark, Alice Harzel,	*Lake City, Fla.,*	Architecture.
Clark, William Arthur,	*Urbana,*	Prep. to Medicine.
Clay, William Wharton,	*Chicago,*	Architectural Eng'g.
Clendenen, Lois Grace,	*Cairo,*	General, L. and A.
Collins, Herbert Keith,	*Rock Island,*	Architectural Eng'g.
Converse, Edward Chapman,	*Sugar Grove,*	Education, S.

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Costigan, James Edward Sylvester,	*Carbondale,*	Civil Eng'g.
Cox, Fred Augustus,	*Wake,*	Civil Eng'g.
Craig, Jennie Adah,	*Champaign,*	General, L. and A.
Crandall, Grace Evelyn,	*Mendota,*	General, L. and A.
Crane, Helen Mary,	*Indianapolis, Ind.,*	Lib., L. and A.
Crawford, David Moffett,	*Champaign,*	Mechanical Eng'g.
Cresap, Fred,	*Cushman,*	General, L. and A.
Cutler, Frank Woodbury,	*Rockford,*	Mechanical Eng'g.
Dallam, Clara Hill,	*Warsaw,*	General, L. and A.
Dart, Whitman,	*Rock Island,*	Architecture.
Davidson, Thomas Meredith,	*Champaign,*	Civil Eng'g.
Day, Winfield Scott,	*Roseville,*	General Science.
Dickhut, Roger Milton,	*Quincy,*	Architecture.
Dieterle, Edward August,	*Chicago,*	Mechanical Eng'g.
Dillavou, John Milford,	*DeLand,*	General, L. and A.
Dixon, Frank Eugene,	*Ambia, Ind.,*	Electrical Eng'g.
Donders, Charlotte Mae,	*Chicago,*	General, L. and A.
Dosch, Charles Fred,	*Chicago,*	Mechanical Eng'g.
DuMoulin, Walter Louis,	*Joliet,*	Electrical Eng'g.
Dunn, Joel Ernest,	*Leo Rock,*	Civil Eng'g.
Eckhardt, William George,	*Buffalo Prairie,*	Agriculture.
Edmiston, Emma,	*Sullivan,*	General, L. and A.
Eiker, William Henry,	*Sparta,*	Civil Eng'g.
Elden, Ralph Waldo,	*Lake Forest,*	Civil Eng'g.
Elliott, Josephine Ruth,	*Sterling,*	Library, L. and A.
Engel, Lloyd Edwin,	*Metamora,*	General, L. and A.
Eustis, Laura Mae,	*Ottawa,*	General, L. and A.
Fisher, George,	*Champaign,*	Mechanical Eng'g.
Fleming, Virgil R,	*Denver,*	Civil Eng'g.
Floto, Ernest Charles,	*Dixon,*	Civil Eng'g.
Foskett, Roy Mortimer,	*Chicago,*	Mechanical Eng'g.
Fox, James Reuben,	*Rockford,*	Electrical Eng'g.
Franceway, Margaret,	*Granville,*	General, L. and A.
Fuller, Frank David,	*Elgin,*	Civil Eng'g.
Funk, Frank Floyd,	*Ottawa,*	Agriculture.
Gantz, Mary Louisa,	*Oregon,*	General, L. and A.
Garwood, Frank Sanders,	*Stonington,*	Agriculture.
Garwood, Herman Edwin,	*Stonington,*	Agriculture.
Garwood, Janet,	*Augusta,*	General Science.

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Gillespie, Louella Ida,	*Champaign*,	Music.
Ginzel, Leo Arthur,	*Trenton*,	Civil Eng'g.
Godeke, Harvey Fred,	*Olney*,	Electrical Eng'g.
Goodspeed, Wilbur Fisk,	*Tuscola*,	Agriculture.
Gore, Adolph,	*Marion*,	General, L. and A.
Green, Cella Genevieve,	*Ivesdale*,	General, L. and A.
Gulick, Byron Allen,	*Champaign*,	Prep. to Medicine.
Hale, Arthur Aldrich,	*Chicago*,	Mechanical Eng'g.
Hampton, Ethel Alleyene,	*Urbana*,	General Science.
Hannum, Myrtle Neta,	*Decatur*,	Math. and Astronomy.
Harney, John Matthew,	*Joliet*,	Chemistry.
Harper, Edith Elizabeth,	*Urbana*,	General, L. and A.
Harris, Chester Arthur,	*Lena*,	Prep. to Medicine.
Hatch, Walter Ray,	*Goshen, Ind.*,	Civil Eng'g.
Hawley, Clarence Ernest,	*Mendota*,	Civil Eng'g.
Hazen, Howard Spencer, Jr.,	*LaSalle*,	Architectural Eng'g.
Headen, Mary Frances,	*Shelbyville*,	Music.
Healy, William James,	*Rochelle*,	General, L. and A.
Higinbotham, Pearl,	*Champaign*,	General, L. and A.
Hildebrandt, Herman Carl Martin,	*LaSalle*,	Classical.
Hildebrandt, Theophil Henry,	*LaSalle*,	Classical.
Hill, Ida Myrtle,	*Champaign*,	General, L. and A.
Hill, Mary Bluebell,	*Champaign*,	Art and Design.
Hillman, Frank William,	*Chicago*,	Civil Eng'g.
Hinman, Glidden,	*Dundee*,	Chemistry.
Hoadley, Josephine,	*Rochelle*,	Library, L. and A.
Hopkins, Ruby Clar,	*Granville*,	General, L. and A.
Hughes, Smith Yule,	*Antioch*,	Mechanical Eng'g.
Huntoon, Harry Alexander,	*Moline*,	Mechanical Eng'g.
Jacobsen, Noah Henning,	*Niantic*,	Civil Eng'g.
Jeter, Roy Woods,	*Yorkville*,	General, L. and A.
Johnson, Frank Peters,	*Chicago*,	Mechanical Eng'g.
Johnson, Preston King,	*Champaign*,	General, L. and A.
Jones, Emlyn Ivor,	*Lexington*,	General, L. and A.
Kasten, Frederick William,	*Dolton Station*,	Civil Eng'g.
Kays, Marion Reed,	*Phoenix, Ariz.*,	Civil Eng'g.
Keator, Jeannette,	*Polo*,	General, L. and A.

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Kiekintveld, Sadie Jeannette,	*Holland, Mich.,*	Lib., L. and A.
Kingsbury, Herman Buchanan,	*Pinkstaff,*	Prep. to Medicine.
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Kornblum, Isidor,	*Tuscola,*	Electrical Eng'g.
Lenke, Edward Henry,	*Chicago,*	Civil Eng'g.
Logan, Chester R,	*Urbana,*	Civil Eng'g.
Lucas, John,	*Easton,*	Civil Eng'g.
Lundahl, Bruce Hjalmar,	*Gibson City,*	Civil Eng'g.
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McIntire, James Franklin,	*Farmer City,*	General, L. and A.
McNeill, Roscoe Plant,	*Greenville,*	General, L. and A.
Marquiss, Franklin Wales,	*Bloomington,*	Mechanical Eng'g.
Martin, William Roy,	*Newton, Ia.,*	Architecture.
Mather, Donald Edward,	*Plainfield,*	Civil Eng'g.
Mather, Emery Thomas,	*Joliet,*	Electrical Eng'g.
Mather, Myra Abbie,	*Joliet,*	General, L. and A.
Mather, Rose Margaret,	*Plainfield,*	General, L. and A.
Matousek, Joseph,	*Chicago,*	Civil Eng'g.
Mautz, George John,	*Pana,*	Prep. to Medicine.
Maxfield, Leroy Haskell,	*Godfrey,*	Electrical Eng'g.
May, David Thorpe,	*Prophetstown,*	Mechanical Eng'g.
Meier, Ernest Edward,	*Chicago,*	Civil Eng'g.
Melby, James Alexander,	*Chicago,*	Architectural Eng'g.
Miller, Nellie Augusta,	*Urbana,*	Household Science.
Miller, Trenna June,	*Decatur,*	Physics and Chemistry.
Mitchell, Harry Scholey,	*Rock Island,*	Mechanical Eng'g.
Montooth, Charles Stuart,	*Toulon,*	General, L. and A.
Morey, Henry Hiram,	*Loda,*	General, L. and A.
Morgan, Edgar A,	*Jewett,*	General, L. and A.
Morgan, George Walker,	*Urbana,*	Civil Eng'g.
Morgan, Isabelle Alice,	*Davenport, Ia.,*	Household Science.
Moss, Haven Haanel,	*Urbana,*	General, L. and A.
Moss, Mary Frances,	*Urbana,*	Classical.
Mountjoy, Oscar Francis,	*Atlanta,*	Agriculture.
Mowbray, Esther Irma,	*Chicago,*	Library, L. and A.
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Murchison, Rob Roy,	*Kewanee,*	Civil Eng'g.

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Newton, Harry Waggoner,	*Lewiston,*	Chemistry.
Nichols, Emily Lavinia,	*Chicago,*	Library, L. and A.
Nuckolls, Charles Morrison,	*Urbana,*	Mechanical Eng'g.
Ocock, Clarence Henry,	*Marengo,*	Agriculture.
O'Connell, Charles Slade,	*Elgin,*	Civil Eng'g.
Olson, Blenda,	*Urbana,*	Household Science.
Orndorff, Robert Brawner,	*Delavan,*	Political Science.
Pahmeyer, Fred Oscar,	*Decatur,*	Mechanical Eng'g.
Parker, Walter Haniman,	*Peoria,*	Architecture.
Pearson, John Winthrop,	*Oak Park,*	Mechanical Eng'g.
Peglow, Fred George,	*Chicago,*	Civil Eng'g.
Perry, Alphonso Lorenzo,	*Cornell,*	Mechanical Eng'g.
Perry, Walter Oliver,	*Cornell,*	Mechanical Eng'g.
Phillips, Nelson Chancellor,	*Damascus,*	Prep. to Medicine.
Pierce, Clarence Raymond,	*Elgin,*	Electrical Eng'g.
Piggott, Edward John, Jr.,	*Chicago,*	Mechanical Eng'g.
Pitts, Florence Elizabeth,	*Bloomington,*	General, L. and A.
Porter, Edward Alexander,	*Momence,*	Agriculture.
Post, Raebern Henry,	*Champaign,*	Mechanical Eng'g.
Powell, Jesse Roy,	*Streator,*	Chemistry.
Purdunn, George Gould,	*Marshall,*	Mechanical Eng'g.
Putting, Oscar John,	*Springfield,*	General, L. and A.
Randall, Frank Alfred,	*Cambridge,*	Civil Eng'g.
Rapp, Charles Edward,	*Jacksonville,*	Civil Eng'g.
Ray, Howard Alden,	*Libertyville,*	Mechanical Eng'g.
Reid, Wilfred Ellis,	*Lacota, Mich.,*	Architecture.
Rein, Lester Edward,	*Chicago,*	Municipal Eng'g.
Renich, Edward Alexander,	*Woodstock,*	General, L. and A.
Renner, Edwin Theodore,	*Lanark,*	Civil Eng'g.
Rice, Walter A,	*Elkhart, Ind.,*	Mechanical Eng'g.
Richeson, Virginia Campbell,	*East St. Louis,*	H'seh'ld Science.
Roberts, Miriam Ellen,	*Ottawa,*	General, L. and A.
Roberts, Ralph Ousley,	*Keokuk, Ia.,*	Architecture.
Robinson, Candace Ione,	*Granville,*	General, L. and A.
Rohkam, Henry,	*Chicago,*	Architecture.
Roney, William Hanson,	*Chicago,*	Civil Engineering.
Rose, Cameron Alfred,	*Oak Park,*	Prep. to Medicine.
Rose, Webster Barclay,	*Windsor,*	Political Science.

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Roy, Howard Meek,	*Anna,*	Civil Engineering.
Rubey, Harry Kelly,	*St. Louis, Mo.,*	Civil Engineering.
Saliba, Habeeb Thomas,	*Cairo,*	General, L. and A.
Sawyer, Fred Scott,	*Chicago,*	Civil Engineering.
Scherer, Josephine,	*Murphysboro,*	General, L. and A.
Schutt, Alfred George,	*Belleville,*	Civil Engineering.
Scott, Augusta Ruby,	*Bethany,*	Library, L. and A.
Scott, Juliet Ann,	*Champaign,*	General, L. and A.
Scudder, Charles Roland,	*Chicago,*	Agriculture.
Seymour, Claude Henrickson,	*Elgin,*	Civil Engineering.
Shilton, Paul Adyman,	*Kewanee,*	Electrical Eng'g.
Shipman, Andrew Bradt,	*DeKalb,*	Mechanical Eng'g.
Shuler, Jane Elspeth,	*Davenport, Ia.,*	General, L. and A.
Sims, Charles Edward,	*Lincoln,*	Civil Engineering.
Singbush, Arthur Carl, Jr.,	*Champaign,*	Mechanical Eng'g.
Skelley, Charles Edward,	*DeKalb,*	Mechanical Eng'g.
Smith, Edwin Raymond,	*Hope,*	General, L. and A.
Smock, Walter F,	*Decatur,*	Civil Engineering.
Sommer, Alfred,	*Chicago,*	Mechanical Eng'g.
Spitler, Wesley Newton,	*Mattoon,*	Electrical Eng'g.
Still, Iva Marguerite,	*Decatur,*	General, L. and A.
Stocker, Charles Herbert,	*Highland,*	Mechanical Eng'g.
Stookey, Marshall Childs,	*Harristown,*	Civil Engineering.
Stowe, Loyd Richard,	*Greenville,*	Mechanical Eng'g.
Sype, George,	*Fairbury,*	General, L. and A.
Taylor, Ruth Beatrice,	*Champaign,*	Library, L. and A.
Thayer, William Sumner,	*Chicago,*	Electrical Eng'g.
Tombaugh, Raymond Standley,	*Waukegan,*	Electrical Eng'g.
Toops, Claude,	*Champaign,*	Architectural Eng'g.
Triebel, Albert Fred,	*Peoria,*	Architectural Eng'g.
Turell, Vera,	*Champaign,*	General, L. and A.
Turnbull, Ethel Agnes,	*Forestville, N. Y.,*	Lib., L. and A.
VanPetten, Albert Alexander,	*Elmwood,*	Civil Engineering.
Voss, Sophie Mary,	*Champaign,*	Music.
Warder, Laura Belle,	*Marion,*	General, L. and A.
Warder, Walter Bain,	*Cairo,*	Latin and Mod. Lang.
Warner, William Herbert,	*Dixon,*	Civil Engineering.
Warnock, Arthur Ray,	*Mason City,*	Classical.
Watrous, Chris Beach,	*Hampshire,*	Electrical Eng'g.
Webkemeyer, Charles William,	*Campbell Hill,*	General Science.

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Wetzel, Nellie,	*Stonington,*	General, L. and A.
Wheeler, Edmund Burke,	*Bellflower,*	Electrical Eng'g.
Wheelock, Henry Thomas,	*Moline,*	Mechanical Eng'g.
White, Hilda Kirke,	*St. Joseph, Mo.,*	Gen., L. and A.
Wiley, Frank Rudolph,	*Allenville,*	General, L. and A.
Wilt, Alva Lewis,	*Lake City,*	General Science.
Winders, Frank Rae,	*Urbana,*	Electrical Eng'g.
Winslow, Frederic Hance,	*Urbana,*	Mechanical Eng'g.
Wittlinger, Emma Marie,	*Decatur,*	General, L. and A.
Work, Edna McCloskey,	*Rushville,*	General, L. and A.
Wray, Harriette,	*Elida,*	Library, L. and A.
Wright, Herman Festues,	*Urbana,*	Agriculture.
Yolton, Robert Elgene,	*Avena,*	Civil Engineering.

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Adams, Leason Heberling,	*Champaign,*	Chem. and Eng'g.
Akers, Milton,	*Homer,*	Electrical Eng'g.
Albertson, Edwin Ellsworth,	*St. Johns, Mich.,*	Gen., L. and A.
Allen, Fred Eaton,	*Delavan,*	Agriculture.
Alley, William Edwin,	*Champaign,*	Electrical Eng'g.
Alspach, George Daniel,	*Mt. Pulaski,*	Civil Engineering.
Alumbaugh, Harry Tilford,	*Carlisle, Ind.,*	General, L. and A.
Alverson, Eva Luella,	*Champaign,*	General, L. and A.
Alverson, Grace Margaret,	*Champaign,*	Music.
Amrine, Thomas Hamer,	*Vermont,*	Electrical Eng'g.
Anderson, Frank Oscar Albin,	*Paxton,*	Electrical Eng'g.
Andrew, Charles Edward,	*Paines Point,*	Civil Engineering.
App, Charles Max,	*Carmi,*	Prep. to Medicine.
Apple, Merri Ghloe,	*Robinson,*	General, L. and A.
Applegate, Frank G,	*Atlanta,*	General, L. and A.
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Armstrong, Florence Azella,	*Chicago,*	General, L. and A.
Atkinson, Elizabeth Elliott,	*Champaign,*	General, L. and A.
Augustinus, Paul,	*Evanston,*	Electrical Eng'g.
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Bagley, Helen Antoinette,	*Oak Park,*	Library, L. and A.
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Ballard, Jeannette,	*N. Orleans, La.,*	Lib., L. and A.
Bannon, James Leo,	*Joliet,*	Civil Engineering.
Bard, Jacob William,	*Quincy,*	Electrical Eng'g.
Barickman, Ralph Elvin,	*Streator,*	Electrical Eng'g.
Barto, Philip Stephan,	*Urbana,*	Agriculture.
Barton, Jesse Billings, Jr.,	*Hinsdale,*	Civil Engineering.
Bates, Charles Richard,	*Camp Point,*	Prep. to Medicine.
Bates, Robert Paul,	*Bloomington,*	Civil Engineering.
Bauer, Effie Lucy,	*Champaign,*	General, L. and A.
Baughman, John Franklin,	*Olney,*	Chemistry.
Baxter, Emile Miles,	*Nauvoo,*	Mechanical Eng'g.
Beall, Elizabeth Marsden,	*Alton,*	General, L. and A.
Bear, Arthur Linn,	*Urbana,*	Electrical Eng'g.
Becker, Cornelius Adolph,	*Chicago,*	Electrical Eng'g.
Belting, Flora Pearl Mabel,	*Mattoon,*	General Science.
Bench, Alfred Ritscher,	*Galena,*	Mechanical Eng'g.
Bennett, Rolland Harold,	*Chicago,*	Civil Engineering.
Berens, Helmut,	*Elmhurst,*	General, L. and A.
Bergert, Henry Amos,	*Moline,*	Electrical Eng'g.
Berolzheimer, Teresa Ruth,	*Chicago Heights,*	Chemistry.
Berthel, Charles Hugh,	*Plainfield,*	Electrical Eng'g.
Blackburn, Infelice,	*Champaign,*	Household Science.
Blair, Sara Lilian,	*Shubenacadia, Nova Scotia,*	Household Science.
Blake, Frank Edmund,	*Watseka,*	General, L. and A.
Blakeslee, George Robert,	*Chicago,*	Business, L. and A.
Bogardus, George Whitfield,	*Springfield,*	Electrical Eng'g.
Bonar, Daisy May,	*Urbana,*	Household Science.
Bond, Claude Hollett,	*Geneva, N. Y.,*	Electrical Eng'g.
Bond, Ethel,	*Champaign,*	General, L. and A.
Bond, Lyda,	*Urbana,*	General, L. and A.
Boone, Charles Guthrie,	*Chrisman,*	Electrical Eng'g.
Botts, Carroll Everett,	*Warrensburg,*	Mechanical Eng'g.
Boyer, Mabel Blanche,	*Bloomington,*	Music.
Brant, Jessie Jennette,	*Hamilton,*	Music.
Brearley, Walter Edward,	*Rockford,*	Agriculture.
Brightman, Morgan Holmes,	*Elgin,*	Electrical Eng'g.
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Brown, William Edward,	*Port Byron,*	Architectural Eng'g.
Brownell, Lodoski Pearle,	*Champaign,*	General, L. and A.
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Bullard, Edwin Elliott,	*Springfield,*	Electrical Eng'g.
Bumstead, Frank Melvin,	*Dundee,*	General, L. and A.
Burger, Irwin Louis,	*Woodstock,*	Civil Engineering.
Burkhalter, Ralph Marks,	*Peoria,*	Civil Engineering.
Bush, James Ackerman,	*Chicago,*	Agriculture.
Butler, Harry Gooding,	*Lockport,*	Civil Engineering.
Butzow, Louis James,	*Sidney,*	Electrical Eng'g.
Caldwell, Harry Lind,	*Chicago Heights,*	Electrical Eng'g.
Callan, John Albert,	*Gifford,*	Prep. to Medicine.
Carter, Ralph Merle,	*Decatur,*	Prep. to Medicine.
Castle, Frederick Boyd,	*Quincy,*	Mechanical Eng'g.
Chadwick, Walter,	*Chicago,*	Mechanical Eng'g.
Chambers, Ralph Edward,	*Sadorus,*	Agriculture.
Christiansen, Johanna Christina Mathea,	*Chicago,*	General, L. and A.
Chuse, George Xavier,	*Mattoon,*	Mechanical Eng'g.
Clark, John Ruskin,	*Elvaston,*	General, L. and A.
Clark, Lena Mae,	*Urbana,*	General, L. and A.
Coleman, George Howell,	*Chicago,*	Prep. to Medicine.
Coleman, John Samuel,	*Beardstown,*	General, L. and A.
Collins, Austin Flint,	*Mahomet,*	Mechanical Eng'g.
Collins, Mary,	*LaSalle,*	General Science.
Collins, Mary Lucia,	*Urbana,*	Music.
Comstock, Arthur Francis,	*Joliet,*	Civil Engineering.
Conard, Frank Eli,	*Monticello,*	Agriculture.
Cone, Wilbur Charles,	*Loda,*	Mechanical Eng'g.
Connelly, Emma Brown,	*Danville,*	Mathematics.
Cook, Clarabelle,	*Urbana,*	General, L. and A.
Cook, Louis Phillip,	*Quincy,*	Electrical Eng'g.
Cook, Pansy Elizabeth,	*Urbana,*	General, L. and A.
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Cowan, John Finley,	*Carterville,*	Mechanical Eng'g.
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Craig, Arthur George,	*Rockford,*	Mechanical Eng'g.
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Crouch, Ruth Verna,	*Kirkwood,*	Household Science.
Cutler, Asa Bryant,	*Rockford,*	Electrical Eng'g.
Dahl, Merton Theodore,	*Racine, Wis.,*	Architec'al Eng'g.
Dancey, Lloyd Slote,	*Fairbury,*	Civil Engineering.
Danely, Paul,	*Champaign,*	Agriculture.
Davidson, Dora,	*Sullivan,*	General, L. and A.
Davis, Belma Mary,	*Mt. Zion,*	Library, L. and A.
Davis, Ralph Richard,	*Centralia,*	General, L. and A.
Davison, Anna Mary,	*Monticello,*	Music.
Davison, Margaret White,	*Monticello,*	Prep. to Medicine.
Dayton, Susan LaRue,	*Paris,*	General, L. and A.
Deason, Francis Ellery,	*Murphysboro,*	Agriculture.
Deatherage, Fred E,	*Waverly,*	General, L. and A.
Denny, Christina,	*Lincoln,*	Library, L. and A.
DePuy, Jessie Maude,	*Urbana,*	General, L. and A.
DePuy, Orval Carl,	*Urbana,*	General, L. and A.
Derrick, Robert,	*Geneva,*	Electrical Eng'g.
Dewey, Charles Benjamin,	*Henry,*	General, L. and A.
Dewey, Etta Viola Janet,	*Farmer City,*	General, L. and A.
Dewey, Homer Harry,	*Henry,*	General, L. and A.
Dillon, Fred Paul,	*Chicago,*	Mechanical Eng'g.
Docker, William Frederick,	*Chicago,*	Civil Engineering.
Dolan, Charles Mark,	*Ohio,*	Electrical Eng'g.
Donoghue, George Terry,	*Chicago,*	Civil Engineering.
Dool, Robert Beatty,	*Aledo,*	Electrical Eng'g.
Doran, Edwin Beale,	*Champaign,*	Agriculture.
Doré, Waldo Emerson,	*Mattoon,*	Prep. to Medicine.
Doughty, Ivan Fremont,	*Westville,*	Civil Engineering.
Drake, Adah,	*Stonington,*	Music.
Drew, Don John Charles,	*Watseka,*	Electrical Eng'g.
Dugan, Earl N,	*Perry, Ia.,*	Architecture.
Dunbar, Harry Butler,	*Princeton,*	Agriculture.
Dyer, Wilson Kert,	*Winchester,*	Electrical Eng'g.
Edwards, John Isaac,	*Aledo,*	Electrical Eng'g.
Eiserer, Charles Emil,	*Chicago,*	Mechanical Eng'g.
Emerson, Frederic Hood,	*Rockford,*	Mechanical Eng'g.
Emmerson, George Harris,	*Mt. Vernon,*	General, L. and A.

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Engquist, Theodore Magnus,	*Chicago,*	Civil Engineering.
Erickson, Cecil Claire,	*Farmer City,*	General, L. and A.
Evans, Robin Mills,	*Winfield, Kas.,*	Electrical Eng'g.
Ewry, Marie Louise,	*LaFayette, Ind.,*	Library, L. and A.
Fairweather, Charles Arthur,	*McLeansboro,*	Civil Engineering.
Farnsworth, George Lester,	*Ottawa,*	Civil Engineering.
Ferry, Leroy Clark,	*Warrensburg,*	Mechanical Eng'g.
Fischer, Carl Henry,	*Carrollton,*	Electrical Eng'g.
Fisher, Roy Savage,	*Litchfield,*	Electrical Eng'g.
Fitch, Robert Haynes,	*Galva,*	Mechanical Eng'g.
Forrest, Elizabeth,	*Chicago,*	Library, L. and A.
Flowers, Roy Warner,	*Quincy,*	Architectural Eng'g.
Foster, Orrington Cyrenius, Jr.,	*Chicago,*	Mechanical Eng'g.
Fowler, Edward Charles,	*Victor, Colo.,*	Mechanical Eng'g.
Fox, Mabelle Clare,	*Danville,*	General, L. and A.
Franklin, Howard Brace,	*Harvey,*	Railway Eng'g.
Fraser, Annebelle,	*LaSalle,*	Library, L. and A.
Freebern, Walter Holsburg,	*Plano,*	Prep. to Medicine.
Freeman, Julian Bryant,	*Princeton,*	Mechanical Eng'g.
Frith, Roy Newcome,	*Watseka,*	Mechanical Eng'g.
Frost, John Henry,	*Chicago,*	Civil Engineering.
Fucik, John, Jr.,	*Chicago,*	Civil Engineering.
*Fuller, Clarence Claude,	*Charleston,*	Agriculture.
Fuller, Wilford Winnie,	*Charleston,*	Mechanical Eng'g.
Fursman, Frances Elias,	*ElPaso,*	General, L. and A.
Galbraith, Ernest John,	*Decatur,*	General, L. and A.
Galeener, George Edwin,	*Vienna,*	Agriculture.
Gallaher, George Puffer,	*Mt. Palatine,*	General, L. and A.
Galloway, William James,	*Deerfield,*	Mechanical Eng'g.
Garm, Clarence Clifford,	*Beardstown,*	Business, L. and A.
Gladden, Bertha,	*Urbana,*	Art and Design.
Glass, John Burr,	*Taylorville,*	Mechanical Eng'g.
Glenn, Eleanor Mae,	*Champaign,*	General, L. and A.
Glidden, Lola Blanche,	*Galva,*	General, L. and A.
Goff, Lutia Azuba,	*Rantoul,*	General, L. and A.
Goltra, Isaac VanTyle,	*Springfield,*	General, L. and A.
Goodhead, George Emmett,	*Winchester,*	Electrical Eng'g.
Goodwin, Benjamin Scott,	*Nunda,*	Electrical Eng'g.
Gore, Arthur Earl,	*Havana,*	Civil Engineering.

* Deceased.

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Graff, Elizabeth,	*Champaign,*	General, L. and A.
Graham, Douglas Basil Adair.	*Riverside,*	Civil Engineering.
Grandpré, Ambrose Goulet,	*Chicago,*	Civil Engineering.
Greenman, Clarence Paine,	*Champaign,*	Agriculture.
Greenman, Margaret Grace,	*Champaign,*	General, L. and A.
Gregg, Ina Marcella,	*Tuscola,*	Music.
Gunn, Alexander Hunter,	*Evanston,*	Architectural Eng'g.
Haase, Herbert,	*Oak Park,*	Municipal Eng'g.
Hachmeister, Henry William,	*Chicago,*	Chem. and Eng'g.
Hall, Ellis Bernard,	*Urbana,*	General, L. and A.
Hall, Grace Evalyn,	*Urbana,*	General, L. and A.
Hamilton, Cecil Henry,	*Thornburg, Ia.,*	Civil Engin'ing.
Hanson, Frank Major,	*Urbana,*	Chemistry.
Hanstein, Carl Menelaeus,	*Chicago,*	Railway Eng'g.
Harding, Albert Austin,	*Paris,*	Mechanical Eng'g.
Hardy, Bert William,	*Griggsville,*	Prep. to Medicine.
Harmon, Ivan Guy,	*Flora,*	Civil Engineering.
Harper, Homer Williamson,	*Urbana,*	Architecture.
Hart, Mabel Baldwin,	*Champaign,*	Art and Design.
Harvey, Bessie Maye,	*Urbana,*	General, L. and A.
Hawthorne, Leo,	*Oregon,*	Mechanical Eng'g.
Hays, George Renwick,	*Houston,*	Prep. to Medicine.
Hayward, Mabel Strickland,	*Ottawa,*	General, L. and A.
Hegenbart, Frank Anthony,	*Champaign,*	Mechanical Eng'g.
Henderson, Charles Elliott,	*Gerlaw,*	Civil Engineering.
Henning, Warren Kenyon,	*Plano,*	Mechanical Eng'g.
Herman, George Bendick,	*Manitowoc, Wis.,*	Civil Eng'g.
Hertel, Garfield Eugene,	*Freeburg,*	General, L. and A.
Hertz, Martin Power,	*Chicago,*	Agriculture.
Hess, Harry Clyde,	*Ottawa,*	General, L. and A.
Hess, Ruth Miner,	*Evanston,*	Architecture.
Hewes, Clarence Avise,	*Quincy,*	Architectural Eng'g.
Hewes, Floyd Sinnock,	*Quincy,*	Civil Engineering.
Hickling, Clarence Laken,	*Ottawa,*	Civil Engineering.
Higgins, Allen Leet,	*Elmwood,*	Agriculture.
Higgins, Daniel Franklin,	*Joliet,*	Civil Engineering.
Hinman, John Harmon,	*Mt. Vernon,*	Electrical Eng'g.
Hoagland, Jennie May,	*Elgin,*	Household Science.
Hoff, Leigh Patridge,	*Chicago Heights,*	Elec. Eng'g.
Hoffman, Frank Gordon,	*Ramsey,*	Civil Engineering.
Hogge, Arthur Rudolph,	*Kansas City, Mo.,*	Gen., L. and A.

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Holl, Charles Ludwig,	*Streator,*	Mechanical Eng'g.
Hook, Henry Hudson,	*Vienna,*	Mechanical Eng'g.
Howard, Frederick Seymour,	*Bloomington,*	Mechanical Eng'g.
Howe, Paul Edward,	*Urbana,*	Chem. and Eng'g.
Howell, Cleves Harrison, Ph. B., *(Wooster Univ.)*, 1901,	*Keokuk, Ia.,*	Civil Engineering.
Howser, Edith Beryl,	*Urbana,*	Music.
Hughes, Anna Raphael,	*Champaign,*	Music.
Hull, Bert Bronson,	*Moline,*	Civil Engineering.
Hull, Horace,	*Chicago,*	Municipal Eng'g.
Humphreys, Harry Paul,	*Buda,*	General, L. and A.
Hunt, Glenne,	*Dana, Ind.,*	Library, L. and A.
Hunter, Flora Vimont,	*Washington, Ky.,*	Lib., L. and A.
Huss, Wesley,	*Urbana,*	Chemistry.
Hutton, James Harry,	*Charleston,*	Prep. to Medicine.
Irwin, Daisy Dell,	*Long View,*	General, L. and A.
Jackson, Litta Dustin,	*Clinton, Ia.,*	Library, L. and A.
James, Leonard Vaughan,	*Amboy,*	Electrical Eng'g.
Jarman, Patience Emelyn,	*Elmwood,*	Music.
Jarvis, John Archibald,	*Joliet,*	Electrical Eng'g.
Johnson, Alice Sarah,	*Champaign,*	Library, L. and A.
Johnson, George Thompson,	*Champaign,*	Prep. to Medicine.
Johnson, Lloyd Elmo,	*Normal,*	Mechanical Eng'g.
Johnson, Lotta Loofbourrow,	*Newton,*	General, L. and A.
Johnstone, Guy Carlyle,	*Bloomington,*	Agriculture.
Jones, Harry Bernard,	*Kankakee,*	Electrical Eng'g.
Jones, Truman N,	*Aurora,*	Mechanical Eng'g.
Jordan, John Garfield,	*Savoy,*	Mechanical Eng'g.
Kanne, Walter John,	*Waterville, Minn.,*	Mechan. Eng'g.
Keil, Edwin Louis,	*Beardstown,*	Agriculture.
Kemp, Jacob Garret,	*Baltimore, Md.,*	Elec. Eng'g.
Kennedy, John Robie, Jr.,	*Tuscaloosa, Ala.,*	Architecture.
Kenyon, Eugene Crouse,	*Peoria,*	Electrical Eng'g.
Kern, George Michael Nicholas,	*Dwight,*	General, L. and A.
Kilpatrick, Mabel,	*Little Rock, Ark.,*	Gen., L. and A.
Kimball, Robert Haskell,	*Rockford,*	General, L. and A.
King, Paul Wheelock,	*Payson,*	Mechanical Eng'g.
Kirkpatrick, Hugh Granville,	*Virden,*	Electrical Eng'g.
Kirkwood, Arthur William,	*Chicago,*	Business, L. and A.
Kirley, John Thomas,	*Kewanee,*	Civil Engineering.
Klein, David,	*Chicago,*	Chemistry.

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Klewer, Arthur Leonard,	*Chicago,*	Architecture.
Kline, Ida May,	*Bloomington,*	General, L. and A.
Kline, William Gordon,	*Amboy,*	General, L. and A.
Knight, Earl John,	*Beardstown,*	Mechanical Eng'g.
Knorr, Louis Solliday,	*Chicago,*	Civil Engineering.
Koch, Reuben Arles,	*Urbana,*	Music.
Kohout, George Anton,	*Chicago,*	Electrical Eng'g.
Kolker, Katherine Joan,	*Quincy,*	General, L. and A.
Kunkle, Roy Delos,	*Peoria,*	Mechanical Eng'g.
Lane, Raymond John,	*Paxton,*	General, L. and A.
Lapham, Ina Olivia,	*Champaign,*	General, L. and A.
Larabee, Charles David,	*Paw Paw,*	Civil Engineering.
Larsh, Fred James,	*Bloomington,*	Architec. Eng'g.
Larson, Charles Andrew,	*Paxton,*	Mechanical Eng'g.
Latzer, Lenore Lydia,	*Highland,*	General Science.
Lehman, Don Raymond,	*Decatur,*	General, L. and A.
Leonard, Edith,	*Urbana,*	Architecture.
Levine, Max Patrick,	*Chicago,*	Prep. to Medicine.
Liggett, Frederick Manley,	*Hamburg, Ia.,*	Architecture.
Lindsay, Mabel,	*Champaign,*	General, L. and A.
Little, Charles Edwin,	*Sycamore,*	Mechanical Eng'g.
Llewellyn, Ralph Corson,	*LaGrange,*	Architectural Eng'g.
Lloyd, Grace Lillian,	*Chicago,*	Library, L. and A.
Lloyd, Jennie Mae,	*Girard,*	General, L. and A.
Long, Roy Harold,	*Lexington,*	Agriculture.
Love, Edward Thomas,	*Aledo,*	Architectural Eng'g.
Lovins, Foy Otto,	*Windsor,*	General, L. and A.
Lundahl, Arvid Luther,	*Moline,*	Mechanical Eng'g.
McArty, Charles Roy,	*Champaign,*	Civil Engineering.
McCann, Jessie Seeley,	*Champaign,*	Household Science.
McCarthy, Estella May,	*Moline,*	General, L. and A.
McCarty, Laurence Justin,	*Sioux City, Ia.,*	Architecture.
McClelland, Clarence Edgar,	*Beason,*	Prep. to Medicine.
McClure, Clyde Hull,	*Oak Park,*	Chem. and Eng'g.
McCoy, Joseph,	*Lafayette, Ind.,*	Architecture.
McCully, Clinton Thomas,	*Champaign,*	General, L. and A.
McDonough, Adelaide Belle,	*Winchester,*	General, L. and A.
McDougall, Agnes,	*Ottawa,*	General, L. and A.
McIntire, Mamie Minerva,	*Sparta,*	General, L. and A.
McKelvey, Frank Hotchkiss,	*Sparta,*	General, L. and A.
McKinnie, Eva May,	*Empire,*	General, L. and A.

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Mann, Kate Bonnell,	*Muskegon, Mich.,*	Lib., L. and A.
Manning, George Kingsley,	*Anderson, Ind.,*	Mechanical Eng'g.
Manspeaker, Berta Harding,	*Champaign,*	Music.
Marriott, Richard Ashley,	*Urbana,*	Agriculture.
Marshall, Reuben S,	*Mt. Morris,*	Electrical Eng'g.
Martin, Clyde Leonidas,	*Dwight,*	Chem. and Eng'g.
Marvel, John Everett,	*Waynesville,*	Prep. to Medicine.
Massey, Esther,	*Urbana,*	General, L. and A.
Maxwell, Wymer Washington,	*Charleston,*	Architecture.
Meadows, David Stanley,	*Chicago,*	Civil Engineering.
Meharry, Edwin Thomas,	*Tolono,*	Agriculture.
Meharry, George Francis,	*Tolono,*	General, L. and A.
Mehlhop, Florimond Lee,	*Havana,*	General, L. and A.
Meissner, Josephine Augusta,	*Champaign,*	Library, L. and A.
Melvin, Leon Russell,	*Greenfield,*	Agriculture.
Meserve, Gladys Theodosia,	*Robinson,*	General, L. and A.
Milbrad, Herbert Vincent,	*Austin, Minn.,*	Architecture.
Miles, Grant Minor,	*Peoria,*	Mechanical Eng'g.
Miller, Alexander Austin,	*Aurora,*	Electrical Eng'g.
Miller, Daisy Mary,	*Urbana,*	Household Science.
Miller, Donald S,	*Geneva,*	Prep. to Medicine.
Miller, Guy Garfield,	*Dixon,*	Prep. to Medicine.
Monier, James Henry,	*Champaign,*	Civil Engineering.
Montgomery, Kenyon,	*Carrollton,*	Electrical Eng'g.
Moore, Charles Lawrence,	*Urbana,*	Municipal Eng'g.
Moore, Francis Guy,	*Bloomington,*	Mechanical Eng'g.
Morehouse, Frances Milton,	*Wyoming,*	General, L. and A.
Morgan, Horace Healy,	*Loda,*	Mechanical Eng'g.
Morris, Sidney Dealey,	*Chicago,*	Electrical Eng'g.
Mosiman, Levi,	*Morton,*	Electrical Eng'g.
Moss, Myrtle Lucy,	*Champaign,*	General, L. and A.
Mulberry, Grace Pearl,	*Taylorville,*	General, L. and A.
Murphy, Edwin Roy,	*Champaign,*	Prep. to Medicine.
Musselman, Virgil George,	*Quincy,*	General, L. and A.
Myers, Henry Beck,	*Springfield,*	Civil Engineering.
Nelson, Katheryn Estelle,	*Champaign,*	Music.
Neuhaus, Jacob John,	*Belleville,*	Civil Engineering.
Newman, Mary Emma,	*Elgin,*	Household Science.
Nielsen, Joseph Nicolay,	*Chicago,*	Mechanical Eng'g.
Norris, John Fulton,	*Anna,*	Mechanical Eng'g.
North, Howard Peter,	*ElPaso,*	Civil Engineering.

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Nydegger, John,	*Danville,*	Mechanical Eng'g.
O'Hair, Lulu Claire,	*Laurel, Ind.,*	General, L. and A.
Olcott, Chester Clare,	*Keithsburg,*	General, L. and A.
Oldefest, Edward George,	*Moline,*	Architecture.
Paddock, Charles Albert,	*Aurora,*	Civil Engineering.
Page, Carlos Merriam,	*Richburg, N. Dak.,*	Elec. Eng'g.
Palmer, Ann Adelia,	*Monticello,*	General, L. and A.
Parish, Dwight Armistead,	*Springfield,*	Civil Engineering.
Parker, Minnie Lenora,	*Taylorville,*	General, L. and A.
Parks, Paul Lindley,	*Urbana,*	General, L. and A.
Parr, Rosalie Mary,	*Mapleton,*	General, L. and A.
Paton, Walter Coffman,	*Kansas City, Kas.,*	Mechan. Eng'g.
Peacock, Burton Earl,	*Moline,*	Electrical Eng'g.
Pepper, Curtis Gordon,	*Champaign,*	Mechanical Eng'g.
Percival, Avis Hortense,	*Urbana,*	General, L. and A.
Perreault, Morris Seraph, ,	*St. Anne,*	Civil Engineering.
Pillsbury, Charles Stephen,	*Urbana,*	Mechanical Eng'g.
Poirot, Aloys Philip,	*Belleville,*	Civil Engineering.
Pollard, Willard Lacy,	*Kirkwood,*	Mechanical Eng'g.
Pool, Ralph W,	*Paxton,*	Electrical Eng'g.
Pope, George Samuel,	*Alton,*	Electrical Eng'g.
Popejoy, Blanche,	*Lexington,*	General, L. and A.
Porterfield, M Raymond,	*Fairmount,*	Electrical Eng'g.
Post, Clarence Fayette,	*Beardstown,*	Mechanical Eng'g.
Post, Royal Elmer,	*Rochester, N. Y.,*	Civil Eng'g.
Powles, Carrie Alberta,	*Chicago,*	General, L. and A.
Pray, Ralph Marble,	*Chicago,*	Electrical Eng'g.
Price, Mabel,	*Hayes,*	General, L. and A.
Rebman, Gail,	*Frederick,*	Library, L. and A.
Reed, Oliver Roy,	*Chicago,*	Civil Engineering.
Reeves, Fanny Steadman,	*Champaign,*	Household Science.
Regan, Ralph Howard,	*Chicago,*	Mechanical Eng'g.
Reinach, Elsie,	*Chicago,*	General, L. and A.
Remick, Arthur Taylor,	*Trenton,*	Architectural Eng'g.
Renfrew, Marie Chastine,	*Urbana,*	Household Science.
Reynolds, Frank Howard,	*Moline,*	Mechanical Eng'g.
Rhoads, Albert Carlton,	*Champaign,*	Architecture.
Rice, Charlotte Krell,	*Clinton, Ia.,*	General, L. and A.
Rich, Charles Clyde,	*Washington,*	Architecture.
Richards, Chester William,	*Urbana,*	General, L. and A.
Richardson, Carl Barrows,	*Tampico,*	Civil Engineering.

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Richmond, Edward Frank,	*St. Charles,*	Civil Engineering.
Rickey, Madge Alice,	*Zionsville, Ind.,*	Music.
Risser, Ruby Blanche,	*Blandinsville,*	General, L. and A.
Roberts, Kathleen Alice,	*Champaign,*	General, L. and A.
Roberts, Louis Paul,	*Lacon,*	Mechanical Eng'g.
Robinson, Estelle Pearl,	*Urbana,*	General, L. and A.
Robinson, Harrison Franklin,	*Mattoon,*	Architecture.
Robinson, Ward Reid,	*Springfield,*	Civil Eng'g.
Rogers, Charles Bolles,	*Oak Park,*	General, L. and A.
Rogers, Edith,	*Windsor,*	General, L. and A.
Rogers, Stella May,	*Oak Park,*	Library, L. and A.
Rolfe, Amy Lucile,	*Champaign,*	General Science.
Ross, Lloyd Elliott,	*White Hall,*	Electrical Eng'g.
Rost, Arthur Howell,	*Macomb,*	Electrical Eng'g.
Rowand, Kile Edward,	*Sidell,*	General, L. and A.
Rump, Charles Albert,	*Quincy,*	Mechanical Eng'g.
Rutledge, George,	*Chester,*	Mathematics.
Saathoff, George Webster,	*Litchfield,*	Electrical Eng'g.
Sachse, William Gustavus,	*Morris,*	Prep. to Medicine.
Sanford, Edwin William,	*Moline,*	Mechanical Eng'g.
Savidge, Harry,	*Farmer City,*	Civil Eng'g.
Schmahl, Myron Roy,	*Aurora,*	Electrical Eng'g.
Schoeller, Julius Ernest,	*Chicago,*	Civil Eng'g.
Schott, Frederick, Jr.,	*Chicago,*	Architecture.
Schulte, Charles Reinhart,	*Vandalia,*	General, L. and A.
Seavert, Norman Edward,	*Chicago,*	Civil Eng'g.
Shaw, James William,	*Springfield,*	Mechanical Eng'g.
Short, Lemuel Byrd,	*Fillmore,*	Civil Eng'g.
Shurtz, Mrs. S. W.,	*Champaign,*	Music.
Sinclair, Lawrence Edwin,	*Ashland,*	Agriculture.
Slater, Willis Appleford,	*Polo,*	Civil Eng'g.
Sloan, Hazel,	*Helena, Mont.,*	Library, L. and A.
Slocum, Fielder,	*Urbana,*	Mechanical Eng'g.
Smith, Alfred Glaze,	*Hope,*	Agriculture.
Smith, Barton Leslie,	*Rockford,*	General, L. and A.
Smith, Howard Richard,	*Springfield,*	Civil Eng'g.
Smith, Russell Nellis,	*Camp Point,*	Civil Eng'g.
Smith, Valentine,	*Urbana,*	General, L. and A.
Snow, Lloyd Andrew,	*Vienna,*	Agriculture.
Staker, Ray Montgomery,	*Clayton,*	Electrical Eng'g.
Staley, Elza,	*Champaign,*	General, L. and A.

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Standard, William Logan,	*Lewiston,*	Electrical Eng'g.
Stanley, Arba Porter,	*Ashtabula, O.,*	Mechanical Eng'g.
Stanley, Edgar Albert,	*Ashtabula, O.,*	Architecture.
Stark, Ralph,	*Champaign,*	Mechanical Eng'g.
Stern, William,	*Joliet,*	Prep. to Medicine.
Stevens, Parker Gilbert,	*Mason,*	Electrical Eng'g.
Stevens, Sabra Elizabeth,	*Champaign,*	General, L. and A.
Stevenson, Annie Nicewander,	*Nebraska, City, Neb.,*	H's'ld Sci.
Stocker, Edward LeRoy,	*Macomb,*	Business, L. and A.
Storm, Howard Charles,	*Lockport,*	General, L. and A.
Stromberg, Julian Willis,	*Chicago,*	Civil Eng'g.
Strong, Ralph Stillman,	*Chicago,*	Mechanical Eng'g.
Sudro, William Frederick,	*Elyria, Ohio,*	Prep. to Medicine.
Suttle, Clifford Bradley,	*Kenney,*	Civil Eng'g.
Swanberg, Hellena May,	*Danville,*	Mathematics.
Swart, Harmon Veeder,	*Lewistown,*	Electrical Eng'g.
Taylor, Ethel Nichols,	*Olney,*	General, L. and A.
Taylor, Roy Elmer,	*Normal,*	Agriculture.
Teufel, Alois, Jr.,	*Victor, Ia.,*	Business, L. and A.
Thomas, Alfred Monroe,	*Tampico,*	Architectural Eng'g.
Thompson, Estelle,	*Prairie Home,*	General, L. and A.
Thorp, Claude,	*Waupella,*	Agriculture.
Tilton, Nellie Edith,	*Urbana,*	Household Science.
Tomlinson, Bennie,	*Champaign,*	General, L. and A.
Toops, George Noble,	*Champaign,*	Civil Eng'g.
Towle, Almon Ira,	*Peoria,*	Mechanical Eng'g.
Townsend, Rolla Edward,	*Marion,*	Electrical Eng'g.
Trego, Walter,	*Hoopeston,*	Civil Eng'g.
Truman, Edna,	*Urbana,*	Household Science.
Truman, Lenora,	*Urbana,*	General, L. and A.
Turnbull, Foster Brown,	*Forestville, N. Y.,*	Gen., L. and A.
Urestii, Adolfo Sanchez,	*Saltillo, Mex.,*	Architec. Eng'g.
de Valle, Jesús,	*Saltillo, Mex.,*	Mechanical Eng'g.
Vandagrift, Carl William,	*Cantrall,*	Civil Eng'g.
Vestal, Clarence LeRoy,	*Warsaw,*	General Science.
Voedisch, Henry Arthur,	*Chicago,*	Chem. and Eng'g.
Waddell, James Vance,	*Taylorville,*	Civil Eng'g.
Wagenseil, Edgar White,	*Port Huron, Mich.,*	Mech. Eng'g.
Wagy, Alva Leon,	*Champaign,*	Mechanical Eng'g.
Waldo, Karl Douglas,	*Rockford,*	General, L. and A.
Wallin, Clarence Harvey,	*Rockford,*	Mechanical Eng'g.

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Walsh, Edward Rodney,	*Elgin,*	Civil Eng'g.
Wamsley, Mabel,	*Mattoon,*	General, L. and A.
Warne, Walter Evans,	*Delavan,*	Electrical Eng'g.
Warner, Harry Wallace,	*Flora,*	Civil Eng'g.
Warren, Charles Edward,	*Jerseyville,*	Civil Eng'g.
Watkins, Oscar S,	*Danville,*	Chemistry.
Watson, Paul Errett,	*Watseka,*	General, L. and A.
Weaver, Herbert Joseph,	*Wheaton,*	Electrical Eng'g.
Webber, William Barnett, Jr.,	*Urbana,*	Mechanical Eng'g.
Webster, Arthur Lake,	*Wheaton,*	Civil Eng'g.
Weilepp, Leila Maude,	*Cisco,*	Library, L. and A.
Welshimer, Robert Ross,	*Neoga,*	General, L. and A.
Wheeler, Mary Margaret,	*Grant Park,*	General, L. and A.
Whipple, Robert Hoadley,	*Rockford,*	Mechanical Eng'g.
Whitney, Max Brooks,	*Lostant,*	General, L. and A.
Weimer, Otto,	*Carrollton,*	Electrical Eng'g.
Wilkinson, Laurance Egar,	*Champaign,*	Architecture.
Williams, Andrew Price,	*Rockford,*	Agriculture.
Williams, Anna Waller,	*Urbana,*	Prep. to Medicine.
Williams, Djalma Downey,	*Farmer City,*	Electrical Eng'g.
Wills, Carl Steward,	*Chicago,*	Electrical Eng'g.
Wilson, Edwin Leonard,	*Joliet,*	General, L. and A.
Wise, Leonard E,	*Cerro Gordo,*	Agriculture.
Wohlfarth, Jennie Pearl,	*Shelbyville,*	Music.
Wood, Beulah Miles,	*Petersburg,*	General, L. and A.
Wood, Chase Harlington,	*Petersburg,*	Political Science.
Wood, Harvey Chase,	*Mt. Pulaski,*	Mechanical Eng'g.
Woodin, Earle Belmont,	*St. Joseph,*	Civil Eng'g.
Woolman, Xenia May,	*Urbana,*	Library, L. and A.
Wooster, Lawrence Fisher,	*Litchfield,*	Electrical Eng'g.
Wrean, James Garfield,	*Ludlow,*	Mechanical Eng'g.
Wright, William Wilberforce,	*Carthage, Mo.,*	Civil Eng'g.
Wynn, Ernest,	*Danville,*	Electrical Eng'g.
Young, Dwayne Glover,	*Lewistown,*	Electrical Eng'g.
Young, Rose Jeannette,	*Rushville,*	General Science.
Yunk, Nellie Louise,	*Sandoval,*	General, L. and A.
Zelenka, Joseph James,	*Savanna,*	Mechanical Eng'g.
Zimmerman, Homer George,	*North Jackson, Ohio,*	Elec. Eng.

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SPECIALS

Abbott, Alice,	*Urbana,*	Physical Training.
Albrecht, Harry Woolf,	*Delavan,*	Mechanical Eng'g.
Anderson, Florence Marion,	*Mahomet,*	Music.
Anicker, George Albert,	*Peoria,*	Agriculture.
Atkinson, Jesse Campbell, B.S., *(Agrl. Coll., S. Dak.)*, 1896,	*Zion City,*	Civil Eng'g.
Aughey, Edmond Joseph,	*Van Orin,*	Agriculture.
Barker, Frank, Jr.,	*Rochelle,*	Chemistry.
Beach, Harold Cecil,	*Vandalia,*	Chemistry.
Beatty, Mary Esther, B. L., *(Iowa State Coll.)*, 1898. B. S., *(Columbia University)*, 1901.	*Urbana,*	Music.
Beebe, Fred Leonard,	*Chicago,*	Agriculture.
Beers, Harley Minard,	*Chicago,*	Architectural Eng'g.
Begeman, George Wesley,	*Elkhorn Grove,*	Agriculture.
Bell, Fred Armstrong,	*Mattoon,*	Agriculture.
Bensyl, Kate Grace,	*Urbana,*	Music.
Bickel, William Rollen,	*DeLand,*	Music.
Bickley, Ernest Angelo,	*Kinbrae, Minn.,*	Mech. Eng'g.
Birely, Cassia Maude,	*Urbana,*	Music.
Blackford, Alice Ann,	*Grayville,*	General Science.
Blackstone, Marguerite Elizabeth,	*Decatur,*	General, L. and A.
Blair, Earl Raymond,	*Chicago,*	Art and Design.
Boggs, Mrs. Grace Lindley,	*Urbana,*	Art and Design.
Borne, Celia Alice,	*Milmine,*	General, L. and A.
Bradbury, William Carson,	*Decatur,*	Electrical Eng'g.
Brooks, Ernest Alfred,	*Dixon,*	Electrical Eng'g.
Brower, Florence,	*Urbana,*	Music.
Bundy, Herman Winford,	*Hayes,*	General Science.
Burkam, John,	*Decatur,*	Mechanical Eng'g.
Busey, Bertha,	*Urbana,*	Household Science.
Bushman, Virgil Earl,	*Milledgeville,*	Agriculture.
Butler, Marie,	*Homer,*	Music.
Bycroft, Harry Fenwick, Jr.,	*Gillespie,*	Agriculture.
Camp, Lena Zululand,	*Bement,*	Music.
Carmichael, Berton Eugene,	*Rochelle,*	Agriculture.
Carpenter, Charles Henry,	*Edgington,*	Agriculture.
Carr, Charles Clement,	*Avon,*	Electrical Eng'g.
Carr, Maurice LeRoy,	*Avon,*	Electrical Eng'g.
Chenoweth, Lloyd Albert,	*Decatur,*	Civil Eng'g.

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Chestnut, Jessie May,	*Harness,*	Music.
Chester, Maybelle,	*Champaign,*	Music.
Clark, James Harry,	*Scottland,*	Electrical Eng'g.
Clark, Ruth Wealthy,	*Vandalia,*	Art and Design.
Cobine, Elizabeth Temple,	*St. Louis, Mo.,*	General, L. and A.
Cohen, Bert,	*Chicago,*	Mechanical Eng'g.
Cole, Arthur Clarence,	*Cripple Creek, Colo.,*	Chem. and Eng'g.
Conard, Sarah Orvilla,	*Monticello,*	Classical.
Conrad, David Emanuel,	*Woodhull,*	Agriculture.
Corbin, Henry,	*Carbon Cliff,*	Electrical Eng'g.
Cornell, Dick Hadwin,	*Cornell,*	Electrical Eng'g.
Cowser, Thomas Judson,	*Mapleton,*	Agriculture.
Craigmile, Mary Agnes,	*Gifford,*	Music.
Crane, Fred Randall, B.S., *(Mich. Agrl. Coll.),* 1899,	*Champaign,*	Music.
Crathorne, Florence Edith,	*Champaign,*	Art and Design.
Crawford, Emma,	*Champaign,*	Art and Design.
Crawford, George Barnes,	*Champaign,*	Music.
Crawford, Mabel Melissa,	*Champaign,*	General, L. and A.
Davis, Hattie Rozella,	*Bondville,*	Music.
Demitz, Charles Henry,	*Baltimore, Md.,*	Arch. Eng'g.
Derr, Harry Benjamin,	*Champaign,*	General Science.
Dewey, Louise Sarah, M. S., 1899,	*Urbana,*	General, L. and A.
Dexter, Maud Harriet,	*Augusta,*	General, L. and A.
Doellinger, Francisco Pastor,	*Buenos Aires, Arg. Rep.*	Agr'ure.
Dole, Joseph Colley,	*Mattoon,*	Agriculture.
Donahoe, Floyd Patrick,	*Decatur,*	Mechanical Eng'g.
Donaldson, Henry Bardwell,	*Dixon,*	Prep. to Medicine.
Dougherty, Floyd Everett,	*Fairmount,*	Architecture.
Dow, Jennie Margaret,	*Davenport, Ia.,*	Gen., L. and A.
East, Edward Murray, B.S., 1901,	*Champaign,*	Music.
Eden, Joseph,	*Sullivan,*	Civil Eng'g.
Fairweather, William Calvin,	*McLeansboro,*	General, L. and A.
Finley, Joseph Orton,	*Oneida,*	Agriculture.
Fleming, Marcella Augusta,	*Bement,*	Music.
Fraser, Mrs. Alice Eaton,	*Champaign,*	Music.
French, Mrs. Laura Woodward,	*Urbana,*	Music.
Gambach, Jacob,	*Hecker,*	General, L. and A.
Gambach, Lena Susan,	*Hecker,*	Music.

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Garrett, Gracie Gertrude,	*Media,*	Art and Design.
Gere, Clara,	*Champaign,*	Music.
Gibbons, Pearl,	*Montrose,*	Music.
Gillmore, George Boothe,	*Urbana,*	Civil Eng'g.
Gleason, Matthew Edward,	*Roberts,*	Agriculture.
Goldberg, Hannah,	*Chicago,*	Music.
Gorden, Wallace Albert,	*Blue Mound,*	Business, L. and A.
Green, James Albert, B. S., 1895,	*Ivesdale,*	Railway Eng'g.
Gregory, Walter Herbert,	*Moweaqua,*	General, L. and A.
Grotts, Charles Joseph,	*Urbana,*	Architecture.
Gunn, Henry J,	*McNabb,*	Mechanical Eng'g.
Haas, John Milton,	*Iowa City, Ia.,*	Mechanical Eng'g.
Hagar, Charles Edward,	*Joliet,*	Prep. to Medicine.
Haines, Mary Martha,	*Champaign,*	Music.
Hall, Willis William,	*Rockford,*	Chemistry.
Hanawalt, Edith,	*Westerville, Ohio,*	Music.
Hancock, Everett Herschel,	*Newman,*	General, L. and A.
Hand, Mabel Mary,	*Champaign,*	Music.
Hanson, Mabel Irene,	*Urbana,*	Music.
Hartman, Dorothy Maria,	*Sidney,*	Music.
Hawley, Etta Annah,	*Dundee,*	Music.
Henion, Lora Atkins,	*Urbana,*	Music.
Henion, Myra,	*Urbana,*	Music.
Henning, Bert Lawton,	*Steward,*	Mechanical Eng'g.
Henry, John Earl,	*Tippecanoe City, O.,*	Architecture.
Hill, Arthur Howard,	*Dundee,*	General Science.
Hoffman, Arthur Beall,	*Lapel, Ind.,*	Architecture.
Holderby, William Matthew,	*Cairo,*	General, L. and A.
Holm, Henry Carl,	*Lockport,*	Agriculture.
Hostetter, Florence Julia,	*Chicago,*	Music.
Howard, Wallace Lawton,	*Sheffield,*	Agriculture.
Hubbart, Guy,	*Philo,*	General, L. and A.
Huber, Morin Emerson,	*Potomac,*	Mechanical Eng'g.
Hughes, Charles Herbert,	*Fairmount,*	Mechanical Eng'g.
Hughes, William,	*Hoopeston,*	General, L. and A.
Hulteen, Victor E,	*Buda,*	Mechanical Eng'g.
Huss, Lillian Maude,	*Urbana,*	Art and Design.
Hyde, Rosa Kate,	*Rising,*	Music.
Ingle, Scott,	*Hoopeston,*	General, L. and A.
Ives, Floy,	*New Boston,*	Music.

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Jayne, Violet Delille, A.M., *(Univ. of Mich.)*, 1896,	*Urbana,*	Music.
Jermyn, Annie Elizabeth,	*Hamilton, Canada,*	Music.
Johnson, Alfred,	*Fairmount, Ind.,*	Phys. Training.
Johnson, Glenn Van Ness,	*Pana,*	Art and Design.
Johnson, Homer,	*Bloomington,*	Agriculture.
Johnson, John Thomas,	*Urbana,*	Mechanical Eng'g.
Jones, J Claude, A. B., 1902,	*Chicago,*	Music.
Kelley, Margaret Genevieve,	*Nauvoo,*	Art and Design.
Kendall, John Samuel,	*Cobden,*	General, L. and A.
Kuehlcke, Otto,	*Davenport, Ia.,*	Civil Eng'g.
Ladage, Fred William,	*Woodside,*	Agriculture.
Laflin, Mary Elizabeth,	*Champaign,*	Music.
Lanham, Mariam Elizabeth,	*Osceola, Ia.,*	Prep. to Medicine.
Lanning, Edgar Gay,	*Harvard,*	Agriculture.
Lindhorst, Mary Captotia,	*Ramsey,*	Music.
Lindley, Jessie Salome,	*Urbana,*	Music.
Logan, Jane,	*Dyerville, Cal.,*	Gen., L. and A.
Lucas, Mrs. Lenore B,	*Urbana,*	General, L. and A.
MacDorman, John Allen,	*Selma, Ohio,*	Agriculture.
McLain, Cordelia,	*Greenville,*	Music.
McLaughlin, Earl George,	*Winchester,*	Agriculture.
Mallon, Francis Fernando,	*Warren,*	Civil Eng'g.
Martin, Fred Sherman,	*Crawfordsville, Ind.*	Political Sci.
Melton, Harvey Leon,	*Nebo,*	General, L. and A.
Merriam, Clarence LeRoy,	*Macomb,*	Agriculture.
Millar, Mary Wright,	*Mattoon,*	Music.
Moore, Lou Belle,	*Zearing,*	General, L. and A.
Moore Lucy Kate,	*Tolono,*	Music.
Moreno, Ruben,	*San Juan, Arg. Rep.,*	Agriculture.
Morgan, Clarence Leslie,	*Farmington,*	Mechanical Eng'g.
Müeller, Jacob William,	*Belleville,*	Mechanical Eng'g.
Mulliken, Phoebe,	*Champaign,*	Music.
Murphy, James Russell,	*Elkhart,*	Electrical Eng'g.
Noble, Anna Harmount,	*Urbana,*	General, L. and A
Noble, Ernest Henry,	*Brocton,*	General, L. and A.
O'Brien, Katharine Ingalls,	*Champaign,*	Music.
O'Connell, Nellie E,	*Champaign,*	Music.
Off, Charles David,	*Peoria,*	Agriculture.
Ordel, Franklin,	*Philo,*	Mechanical Eng'g.

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Ostertag, Rosa Henrietta,	*Chicago,*	Household Science.
Owen, Edyth Pearl,	*Champaign,*	Music.
Parker, John Kumler,	*Griggsville,*	Chemistry.
Patton, James Rauch,	*Virden,*	Electrical Eng'g.
Peterson, Robert,	*Champaign,*	Chemistry.
Pettinger, Walter Thomas,	*Cumberland, Ia.,*	Electrical Eng.
Pfeffer, Frank,	*Champaign,*	Electrical Eng'g.
Pittman, Elmer Deborous,	*Mahomet,*	Agriculture.
Porter, James Albert,	*Arcola,*	General, L. and A.
Postlewait, Harriet Leotine,	*Philo,*	General, L. and A.
Pound, Horace Herschel,	*Newman,*	General, L. and A.
Price, N Oma,	*Hayes,*	General, L. and A.
Ray, Alma Grace,	*Urbana,*	Music.
Ricketts, Clara Agnes,	*Champaign,*	Music.
Rivara, Pedro Luis,	*Buenos Aires, Arg. Rep.,*	Agr'ure.
Robinson, Mrs. Elinor Corse,	*Urbana,*	Music.
Rothgeb, Wade Hampton,	*Wellington,*	General, L. and A.
Rundles, Don Cameron,	*Ft. Wayne, Ind.,*	Agriculture.
Samson, George Roy, A. B., 1902,	*Urbana,*	Music.
Sanders, Frank Smith,	*Portland, Ind.,*	Architecture.
Schmidt, Hugo,	*Chicago,*	Civil Eng'g.
Selicovitz, Rosa,	*Champaign,*	Music.
Shannon, Katharyn Robertine,	*Peoria,*	Music.
Shaw, Guy Loren,	*Summer Hill,*	Agriculture.
Shelton, Mrs. Wanda Schember,	*Loami,*	Music.
Shepherd, Jacob Husted,	*Urbana,*	Agriculture.
Shepherd, John William, Jr.,	*Paris,*	Business, L. and A.
Slaughter, Emma Edna,	*Fairbury,*	Music.
Smith, Clara Mabel,	*Cairo,*	General, L. and A.
Smith, Erasmus Edward,	*Modena,*	Business, L. and A.
Smith, Fred,	*Alexis,*	Electrical Eng'g.
Smith, Louie Henrie, M.S., 1899,	*Champaign,*	Music.
Smith, Stephen Patrick,	*Champaign,*	Architecture.
Soverhill, Wilber Rowe,	*Tiskilwa,*	Agriculture.
Spani, Daniel Dominick,	*Benton,*	Architectural Eng'g.
Splain, Alex,	*Beason,*	Agriculture.
Stallcup, Charlie,	*Monticello,*	Agriculture.
Staples, Oren Elmer,	*Champaign,*	Music.
Stearns, Fred Carless,	*Mahomet,*	Agriculture.
Stevenson, William Henry, A. B., *(Illinois Coll.)*, 1893.	*Jacksonville,*	Agriculture.

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Stewart, Samuel Thomas,	*Biggsville,*	Agriculture.
Stoner, Inez Amanda,	*Paxton,*	Art and Design.
Strange, John Blanchard,	*Grand Ledge, Mich.,*	Agriculture.
Strauch, Oswald Frederick,	*Chadwick,*	Mechanical Eng'g.
Strawn, John Elliot,	*Peoria,*	Mechanical Eng'g.
Sutton, William D,	*Urbana,*	Art and Design.
Thomas, Margaret Bell,	*Onarga,*	General, L. and A.
Thompson, Clarence,	*Warrensburg,*	Agriculture.
Thompson, James Arthur,	*Layton,*	Agriculture.
Townsend, Robert David,	*Chicago,*	Mechanical Eng'g.
Trams, Albert Francis,	*Champaign,*	General, L. and A.
Turnbull, Guy Allen,	*Van Orin,*	Mechanical, Eng'g.
Unger, Charles Peter,	*Rochelle,*	Prep. to Medicine.
Uppendahl, Vida Elvirda,	*Dalton City,*	Music.
VanDervoort, Maude Eliza,	*Lexington,*	General, L. and A.
VanMeter, Anna Roberta,	*El Paso,*	Household Science.
VanMeter, Helen Jane,	*El Paso,*	Architecture.
Varner, David Dixon,	*Chrisman,*	Agriculture.
Venable, Frank Stuart,	*Reynolds,*	Agriculture.
Vennum, Ernest Madge,	*Champaign,*	Music.
Walcott, Saint Elmo,	*Urbana,*	Mechanical Eng'g.
Washburn, Samuel Edward,	*Fairmount,*	Mechanical Eng'g.
Watkins, May Frances,	*Chenoa,*	General, L. and A.
Weaver, Emmor Brooke,	*West Liberty, Ia.,*	Architecture.
Wenz, Carolyn Louise,	*Harvard,*	Agriculture.
Wells, Claude Edwin,	*Paris,*	General, L. and A.
Werking, Laura Evelyn,	*Peoria,*	General, L. and A.
Williams, Jay,	*Farmer City,*	Agriculture.
Williams, Roy,	*Monticello,*	Music.
Wise, Lewis W,	*Cerro Gordo,*	Agriculture.
Wolf, Arthur Alfred,	*Farina,*	Architecture.
Woodin, Josephine Mae,	*Rock Island,*	Music.
Worthen, Edmund Louis,	*Warsaw,*	Agriculture.
Worthington, Addison Milton,	*South Haven, Mich.,*	Architecture.
Wright, Ward Ellis,	*Woodstock,*	Mechanical Eng'g.
Yeomans, Walter Curtis,	*Avon,*	Art and Design.
Ziegler, Wilfred Ivanhoe,	*Clinton,*	Agriculture.

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SPECIALS IN COLLEGE OF AGRICULTURE, pp. 63, 287

Alcott, Leonard Curtis,	*Fairview.*
Allen, Edward Riley,	*Pana.*
Allison, Harry Orson,	*Alpha.*
Anders, Joseph Olai,	*Newark.*
Anderson, Leslie Lee,	*Summer Hill.*
Angle, Ray Williams,	*Dakota.*
Apple, John Emerson,	*Robinson.*
Armstrong, Joseph Arthur,	*Bondville.*
Baldwin, Frank,	*Ipava.*
Berry, Frank Stuart,	*Pleasant Hill.*
Betzelberger, George J,	*Delavan.*
Bonner, John Gordon,	*Millburn.*
Bracken, William Alvin,	*Putnam.*
Brand, George Walter,	*Bloomington.*
Bridge, Glenn Fero,	*Galesburg.*
Bronson, George Durrill,	*Urbana.*
Brown, Ara Broadwill,	*Elmwood.*
Brown, Franklin Stuart,	*Hillsboro.*
Brown, Marshall Asbury,	*Decatur.*
Bryan, Louis Lord,	*Dixon.*
Burbank, Harry Fay,	*Woodstock.*
Caldwell, Harry,	*Peoria.*
Candor, David Bopes,	*Seaton.*
Cation, James Levi,	*Williamsfield.*
Cattron, Kie,	*Fairview.*
Clark, James Roll,	*Bloomington.*
Clarke, James William,	*Sciota.*
Corzine, Roy Allen,	*Stonington.*
Cothern, Robert P,	*Guthrie.*
Crocker, Paul Holbrook,	*Springfield.*
Cross, William Robert,	*Mason City.*
Crouch, Samuel,	*Kirkwood.*
Culver, Carl Albert,	*Athens.*
Culver, Harry Wayne,	*Athens.*
Davis, Albert Edward, Jr.,	*Batavia.*
Draper, Turner Byron,	*Ellis Mound.*
Dull, Charles Burton,	*Tennessee.*
Dysart, John Padden,	*Granville.*
Dysart, Leslie Cornelius,	*Granville.*

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Eisenmayer, Augustus,	*Trenton.*
Fairchild, Asa Roy,	*Snider.*
Fleming, Robert Hugh,	*Eureka.*
Frans, Rans Peter,	*Kirkwood.*
Funk, Marquis DeLoss,	*Shirley.*
Gaiser, Joseph Edmund,	*Charleston.*
Gillespy, George Anson,	*Paris.*
Hayes, Augustus Washington,	*Pleasant Plains.*
Heaton, Calvin Frederic,	*New Burnside.*
Hertz, Harry Louis, Jr.,	*Chicago.*
Hines, Elmer George,	*Huey.*
Hinkley, George Meech,	*DuBois.*
Hinkley, Henry Otis,	*DuBois.*
Huffman, James Royce,	*Colfax.*
Jennings, John Claude,	*Mound.*
Johnston, Ora Birney,	*Lexington.*
Joiner, Charles Henry,	*Polo.*
Kelly, Emry,	*Altona.*
Kenyon, Eli Daniel,	*Athens.*
Kincaid, James Earle,	*Athens.*
Kirkpatrick, Carlton A,	*Mayview.*
Kostenbader, Edwin Everett,	*Damascus.*
Krapf, Henry Antone,	*Peotone.*
Leipold, Melchor,	*Mt. Carmel.*
Lindsay, Edward Eugene,	*Onarga.*
Logeman, Louis Valentine,	*Ravenswood.*
Lucas, Morgan,	*Easton.*
McCarty, William Frederick,	*Tuscola.*
McKeighan, James Leslie,	*Yates City.*
McLaughlin, William Virgil,	*Campbell Hill.*
Mann, Charles Judson,	*Gilman.*
Massie, Stuart Myron,	*Colusa.*
Miller, Harry,	*Galva.*
Mobley, William Dean,	*Mt. Sterling.*
Moss, Charles Nash,	*Mt. Vernon.*
Murphy, James Walter,	*Elkhart.*
Musgrave, Oris,	*Robinson.*
Musgrove, Fred G,	*Vermont.*
Mustain, Glen Terry,	*Sciota.*
Newcomb, William Wilson,	*Champaign.*
Newell, Allie Jay,	*Clinton.*

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Nichols, John Sleeper,	*Hamlet.*
Odiorne, Alfred,	*Springfield.*
O'Neal, Fred Raggan,	*Arnold.*
Paisley, Calvin Denton,	*Irving.*
Parker, Chester Leigh,	*Atkinson.*
Peddicord, Raymond Nelson,	*Marseilles.*
Peek, Will Rickel,	*Tower Hill.*
Peterson, Tobias,	*Newark.*
Pfeifer, George Louis,	*Arcola.*
Pitts, George Walter,	*McLean.*
Pitts, Ralph Lowell,	*McLean.*
Pratt, Frank Harvey,	*Staley.*
Price, Arnold Gear,	*Oregon.*
Primm, Jay Otis,	*Athens.*
Redpath, Charles Lindsay,	*Marengo.*
Rehm, Jacob Albert,	*Chicago.*
Roberts, Owen Osmond,	*Joppa.*
Robison, Frank,	*Tremont.*
Rothgeb, Claude James,	*Milford.*
Schoonhoven, Thomas L,	*Rochelle.*
Shinn, William Ricketts,	*Mattoon.*
Shuman, Bliss,	*Sullivan.*
Sinclair, Irwin Alexander,	*Cornell.*
Snyder, Alden Eugene,	*Kankakee.*
Spencer, Carl Earl,	*Canton.*
Spitler, John Clyde,	*Montrose.*
Sterl, John William,	*Maud.*
Stevenson, Luther,	*Cuba.*
Swayze, Fred Eugene,	*Salem.*
Tenney, Walter Eugene,	*Bloomington.*
Thompson, Albert,	*Carbondale.*
Tullock, Warren Milne,	*Rockford.*
Turner, Howard Asa,	*Butler.*
Varner, Willie T,	*Chrisman.*
Varhalen, George Frank,	*Elmhurst.*
Voris, Louis Kirkum,	*Neoga.*
Wagoner, Joseph Harrison,	*Normal.*
Warner, Earl Amos,	*Marengo.*
Webb, Rollie Creel,	*Good Hope.*
Webster, John Warren,	*Pleasant Hill.*
Wellman, William August,	*Golconda.*

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White, Fred H.	*Longview.*
White, Jesse H,	*Princeton.*
White, William Earnest,	*Millburn.*
Wilson, John Arthur,	*Ava.*
Wilson, Roy Lemuel,	*Dix.*
Wolf, Louis August,	*Farina.*
Woodin, Dwight E J,	*St. Joseph.*

SPECIALS IN HOUSEHOLD SCIENCE, p. 287

Bond, Luella Mabel,	*Champaign.*
Carson, Luvilla Bardwell,	*Champaign.*
Hunt, Agnes,	*Ridott.*
Lindley, Etheldred Frank,	*Urbana.*
Linn, Margaret Bertha,	*Byron.*
Logan, Winnie Alice,	*Edinburg.*
Peacock, Lottie Belle,	*Urbana.*
Shirley, Caroline Alice,	*Cherry Valley.*
Turner, Clara Louise,	*Hebron.*
Wollaver, Jennie Ella,	*Dundee.*

SUMMER TERM

Alverson, Grace Margaret,	*Champaign.*
Alvis, Harry J,	*Mt. Vernon.*
Anderson, Almor Severin,	*La Harpe.*
Anderson, Mrs. Almor Severin,	*La Harpe.*
Anderson, Mary,	*Macon.*
Armitage, James Howard, A.B., 1901,	*Buckingham.*
Armstrong, Florence Azella,	*Chicago.*
Asbury, John William,	*Marion.*
Baird, Walter Hayes,	*Springfield.*
Baker, Lou,	*Champaign.*
Banks, John Stuart,	*Milan.*
Barnes, Mrs. Pearl Sanders,	*Springfield.*
Barth, Mary Elizabeth,	*Decatur.*
Bauer, Ralph Stanley,	*Champaign.*
Bay, Alena Alice,	*Blissfield, Mich.*
Beaty, Francis Marion,	*Marion.*
Bishop, George William,	*Bloomington.*
Bliss, Anson Lee, A.B., *(Austin Coll.)*, 1895,	*Mt. Vernon.*

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Boner, Halbert Evans,	*Wolcott, Ind.*
Booker, Helen Ethel,	*Champaign.*
Boon, Harry Lehre,	*Armstrong.*
Born, Alda Holderman,	*Champaign.*
Bowman, Bertha Estella,	*Mansfield.*
Boyle, John Marshall,	*Roberts.*
Breese, H. C.,	*Toledo.*
Briscoe, Chas. Francis,	*Hoopeston.*
Brower, Lyle Ireneus, B.S., 1898,	*Rockford.*
Brower, Mrs. Zalia Eustis,	*Rockford.*
Burgess, Chas. Oliver,	*Champaign.*
Burrill, Mildred Ann,	*Urbana.*
Burtle, Anna Elizabeth,	*Glenarm.*
Busey, Frank Augusta,	*Urbana.*
Busey, Virginia Richards,	*Urbana.*
Butzow, Louis James,	*Sidney.*
Caldwell, Mrs. Francis Baber,	*Athens, W. Va.*
Calhoun, Helen Vera,	*Champaign.*
Calhoun, Henrietta Anne, B.S., 1901,	*Champaign.*
Carpenter, Kate Edna,	*Wyoming.*
Carpenter, Sara Jane,	*Wyoming.*
Carter, Opal Gertrude,	*Champaign.*
Cass, Sherman,	*Cerro Gordo.*
Catterlin, Lillian May,	*Champaign.*
Cattron, John William,	*Fairview.*
Chapman, Mrs. Kate,	*Murphysboro.*
Chapman, William Charles,	*Sheldon.*
Chisholm, Estella Forth,	*Farmer City.*
Chisholm, Eva May,	*Farmer City.*
Coggeshall, Mrs. Grace Greenwood,	*Ridgefarm.*
Coggeshall, Lester B,	*Ridgefarm.*
Columbia, Hattie Geneva,	*Champaign.*
Cotteral, Lida Holmes,	*McLeansboro.*
Cotton, Mrs. Gertrude Jacobs, M.D. *(Woman's Med. Coll.)* 1889,	*Delavan, Wis.*
Coyle, John Frank,	*Penfield.*
Curtiss, Albert Root,	*Urbana.*
Cusick, John Fay,	*Chrisman.*
Darling, Laverne Henry,	*Plainfield.*
Davidson, Nell Jeanette,	*Champaign.*
Davis, Wilmer Esla,	*Rankin.*

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Dennis, Singleton Ash,	*East Peoria.*
Dickson, Floyd Harry,	*Hampshire.*
Doran, Edwin Wortham,	*Champaign.*
Dorris, Charles Henry, M.S. *(McKendree)*, 1895,	*Collinsville.*
Dorsey, Clarence Benson,	*Moro.*
Durland, Clyde Earl,	*Flora.*
Edwards, Ada May,	*Marion.*
Ermeling, Willard Walter,	*Chicago.*
Eustis, Laura Mae,	*Ottawa.*
Fairbanks, Roland William,	*Bradford.*
Faris, Stephen Douglas,	*Perry.*
Fiedler, George Louis,	*Freeburg.*
Fisher, Clara Edna,	*Champaign.*
Forbes, Ethel Clara Schumann,	*Urbana.*
Forbes, Marjorie Douglas,	*Urbana.*
Forbes, Winnifred,	*Urbana.*
Fox, Fred Gates, A.B., 1898,	*Peru.*
Franklin, Lois Gertrude,	*Dwight.*
Frazey, Alice Belle, A.B., 1898,	*Urbana.*
Fritter, Clara Theressa,	*Normal.*
Fritter, Edna Elizabeth,	*Normal.*
Fritter, Enoch Abraham,	*Normal.*
Gambach, Jacob,	*Hecker.*
Garlough, Carl D, A.M., *(Hillsdale Coll.)*, 1900,	*Stanford.*
Gilbreath, Frank Able,	*Loda.*
Gilkerson, Aletha, A.B., 1902,	*Urbana.*
Gilkerson, Frances Emeline,	*Urbana.*
Girhard, Antoinette,	*Newton.*
Goff, Mary Emma, A.B., 1902,	*Rantoul.*
Graham, James John,	*Springfield.*
Greer, James Richard,	*Champaign.*
Graves, Luther Glenn,	*Champaign.*
Gray, John,	*Elburn.*
Green, Clarence,	*Lawrenceville.*
Gregory, Walter Herbert,	*Mowcaqua.*
Griffith, William Washington,	*Windsor.*
Hall, Aura Beulah,	*Carmi.*
Hammers, Elizabeth,	*Champaign.*
Hammond, Emily June,	*Bement.*

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Hammond, Lena Wilhelmina,	*Bement.*
Hammond, Winnifred G.,	*Bement.*
Hatfield, Myrtle Vaile,	*Paris.*
Hauter, Joseph Elmer,	*Tiskilwa.*
Heaton, Edna,	*Delavan.*
Hedden, Oran Robarts,	*Robinson.*
Hegnauer, Leonard,	*Onarga.*
Hermann, George Benedict,	*Manitowoc, Wis.*
Hertel, Walter Charles,	*Belleville.*
Hess, Lottie,	*Philo.*
Hill, Rose,	*Streator.*
Holleman, John Bellinger,	*Stigler, Ind. Ty.*
Holmes, Charlotte Eugenia,	*Chicago.*
Howard, Wallace Lawton,	*Sheffield.*
Hubbart, Guy,	*Philo.*
Huntington, Ellen Alden,	*Hartford, Conn.*
Irvin, Grace Edna,	*Rushville.*
Jenkins, Harriet Elizabeth,	*Elkville.*
Jennings, Rienzi Walter,	*Grayville.*
Jones, J Claude, A.B., 1902,	*Chicago.*
Jones, Minnie Alice,	*Secor.*
Jones, Warren, A.B., 1902,	*Whitehall.*
Jones, Wallace Franklin,	*Wyoming.*
Kelley, Kathryne Mabel,	*Bushnell.*
Kent, Chas. Wolcott,	*Kalamazoo, Mich.*
Ketzle, Henry Benjamin,	*Reynolds.*
Kincaid, James Earle,	*Athens.*
Kirkpatrick, Harold H, A.B., 1897,	*Penfield.*
Knowlton, William David,	*Onarga.*
Koons, Guy Jink,	*Oakland.*
Kyte, John Felix,	*Milan.*
Larson, Lawrence Fred,	*Galva.*
Leaverton, Jae Ernest,	*Danville.*
Lewis, Leonard,	*Champaign.*
Little, Chas. Edwin,	*Sycamore.*
McClelland, Adda,	*Broadlands.*
McClelland, Laura Rosanna,	*Toledo, Ia.*
McGinley, William,	*Moweaqua.*
McKinney, Harold Burritt,	*Urbana.*
Manahan, Helen Adair,	*Streator.*
Mark, Elvira Ellen,	*Decatur.*

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Marker, Geo. Edwards,	*Onarga.*
Marvel, John Everett,	*Waynesville.*
Mead, Clarence Eugene,	*Chillicothe.*
Meisenhelter, Ethel Linn,	*Rosemond.*
Milbrad, Herbert Vincent,	*Austin, Minn.*
Miller, Guy Garfield,	*Dixon.*
Miller, Harry Crawford,	*Nokomis.*
Miller, James Erricson,	*Paxton.*
Miller, Leonard Joseph,	*Sterling.*
Montgomery, Irma Francis,	*Maroa.*
Morgan, Ora Sherman,	*Hampshire.*
Morton, James Harrison,	*Kewanee.*
Müeller, Jacob William,	*Belleville.*
Negley, Henry,	*Terre Haute, Ind.*
Nicholl, Edgar Fremont,	*De Kalb.*
Nuckolls, Chas. Morrison,	*Urbana.*
Ocheltree, Mabel Gertrude,	*Homer.*
Olson, Anna Matilda,	*Weldon.*
Olson, Blenda,	*Urbana.*
Ormiston, Oscar Bishop,	*West York.*
Pahmeyer, Fred Oscar,	*Decatur.*
Parr, Elizabeth,	*Urbana.*
Passmore, John Hayes,	*Mendon.*
Peabody, Howard,	*Stonington.*
Perrin, George Gulliver,	*La Harpe.*
Pierce, Mrs. Sarah Elizabeth,	*Havana.*
Pillsbury, Chas. Stephen,	*Urbana.*
Proudfit, David Morrow,	*Abingdon.*
Ragsdale, James Harvey,	*Moweaqua.*
Ranson, Clara Ann,	*Havana.*
Ranch, Lewis Edward,	*Easton.*
Reasoner, Clara Beck, A.B., 1902,	*Urbana.*
Rhoades, Rachel Mirae,	*Urbana.*
Rhoads, Ida Ruth,	*Champaign.*
Risser, Ruby Blanche,	*Blandinsville.*
Roberts, Myrtle Irene,	*Litchfield.*
Robinson, Henry Halleck,	*Urbana.*
Royall, Chas. Crecy,	*Clay Center, Kas.*
Royse, Lucy Ellen,	*Cisco.*
Saliba, Habeeb Thannous,	*Cairo.*
Sammis, John Langley, M.S., 1899,	*Champaign.*

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Samuels, Alice,	*Marion.*
Schumacher, Henry Theodore,	*La Rose.*
Scott, John Bennett,	*Rolla, Mo.*
Scott, Victor Egbert,	*Champaign.*
Sears, Minnie Earl, M.S. *(Perdue)*, 1894,	*La Fayette, Ind.*
Selby, Richards Edward,	*Onarga.*
Seymour, Arthur Platt,	*Henning.*
Siebert, Wm. Schiller Vincent,	*St. Louis, Mo.*
Skaggs, William Walter,	*Marion.*
Sloan, William Finlay,	*Bowen.*
Slocum, Mary Jane,	*Loda.*
Smith, Alfred Glaze,	*Champaign.*
Smith, Chas. Wesley,	*Lockwood, N. Y.*
Smith, Florence Mary, A.B., 1899,	*Urbana.*
Smith, Fred John,	*San Jose.*
Smith, Percy Almerin, B.S., 1901,	*Dixon.*
Smith, William Walter, A.B., 1900,	*Broadlands.*
Snider, Earl Quinter,	*Cerro Gordo.*
Snow, Shirley Clifford,	*Austin.*
Stapp, Melvina,	*Colchester.*
Stearman, Anna Drucilla,	*Olney.*
Stevens, Hirrel,	*St. Louis, Mo.*
Stevens, Wyandotte James,	*St. Louis, Mo.*
Stine, John Carl,	*Assumption.*
Strawn, Myrtle,	*Albion.*
Strehlow, Cornelia Emma,	*Shermerville.*
Swan, Florence,	*Maroa.*
Swan, Lillian,	*Maroa.*
Talbot, Kenneth Hammet,	*Urbana.*
Taylor, Harry,	*Harrisburg.*
Thornton, Grant,	*Sadorus.*
Trimble, Clara Eugenia,	*Tremont.*
Trams, Albert Francis,	*Champaign.*
Truscott, Laura Margaret,	*Mt. Erie.*
Vines, Edgar James,	*Hoopeston.*
Wakefield, Frances Evelyn,	*Newton.*
Walcott, Lloyd Vernon,	*Fillmore.*
Way, Hermine Clare,	*Champaign.*
Wells, Reginald Ellis,	*Champaign.*
Western, Irving Mark, A.B., 1902,	*Dundee.*
Wiley, Wallace Kenneth,	*Peoria.*

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Willard, Wm. Franklin,	*Topeka.*
Williams, Mary Edith,	*Newman.*
Wise, Lewis W,	*Cerro Gordo.*
Wolf, Will Charles,	*Fayettville.*
Wood, Harvey Chase,	*Mt. Pulaski.*
Wright, Gaius Emory,	*Champaign.*
Yates, Thomas Monroe,	*Griggsville.*
Yunk, Nellie,	*Sandoval.*

COLLEGE OF LAW

Third Year

Barrett, Charles Vincent,	*Chicago.*
Beckman, John Philip,	*Clayton.*
Biossat, Harry Armand,	*Chicago.*
Birdzell, Luther Earle,	*Champaign.*
Carson, Francis Thomas,	*Urbana.*
Clock, Sherwood Alonzo,	*Geneva, Ia.*
Davis, Horatio S,	*Urbana.*
Enochs, Delbert Riner, A.B., 1898,	*Champaign.*
Gavin, John Francis,	*Chicago.*
Grove, Rolla Burdette,	*Ottawa.*
Hartline, Herman Eugene,	*Anna.*
Hauter, Andrew Edgar,	*Tiskilwa.*
Hetherington, Benjamin William,	*LaSalle.*
Larson, Nels Alfred,	*Moline.*
Lego, Lulu Mackintosh,	*Champaign.*
Martin, Grace E,	*Champaign.*
Mathews, Clyde Milton,	*Urbana.*
Nees, Frederick Louis,	*Chicago.*
Pettyjohn, James William,	*Farmington.*
Pollard, Charles Robert,	*Delphi, Ind.*
Reniff, Ernest Chamberlain,	*Amboy.*
Rhea, Frank Hiett, A.B. *(Ill. Wesleyan)*, 1898,	*Bloomington.*
Stahl, Garland,	*Elkhart.*
Stone, Clyde Ernest,	*Urbana.*
Stone, Hal Marot,	*Mason City.*
Ward, Robert Russell,	*Benton.*
Williams, Walter Winslow,	*Herrin.*

Second Year

Briggle, Charles Guy,	*Rushville.*
Bundy, Ralph Parmer, A.B., 1902,	*Hartford City, Ind.*

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Burkhardt, John Herman,	*Sorento.*
Campbell, Ashton Ellsworth, A.B., 1901,	*Champaign.*
Clark, Clinton Oliver,	*LeRoy.*
Clark, Lorin,	*St. Joseph.*
Coen, Homer Clarence,	*Olney.*
Cox, Manford E,	*Robinson.*
Edwards, Ralph Owen,	*Bellflower.*
Glick, Himan Richard,	*Champaign.*
Gray, Bartlett Stephen,	*Jacksonville.*
Hunt, George Warren,	*Granville.*
Kaeser, William George,	*Highland.*
Kershaw, LeRoy,	*Elmwood.*
Ketchum, Daniel Clement, A.B., 1899,	*Elmwood.*
Lindley, Walter Charles, A.B., 1901,	*Neoga.*
Lindsay, Frank Merrill,	*Decatur.*
McKinley, George Harvey, Jr.,	*Moline.*
Medill, William Anthony,	*Milan.*
Morris, Charles Myers,	*Rantoul.*
Newman, Allan Andrew,	*Griggsville.*
Northcott, Nathaniel Dresser,	*Greenville.*
Parker, Calton William,	*Champaign.*
Perrigo, Lyle Donovan,	*Urbana.*
Powers, Frank Marion,	*Streator.*
Prettyman, William Schenck,	*Pekin.*
Schumacher, Henry Theodore,	*LaRose.*
Seymour, Roy Vincent,	*Dwight.*
Tripp, Harold Frank,	*Quincy.*
Tuthill, Lewis Butler,	*Anna.*
Vickrage, Richard Percival,	*Pana.*
Western, Irving Mark,	*Dundee.*

First Year

Allen, Lawrence Thompson,	*Hoopeston.*
Clendenin, George Morey,	*Springfield.*
Danely, Alfred, Jr.,	*Champaign.*
Doyle, Joseph Lemen,	*Champaign.*
Dryer, John Lewis,	*Butler.*
Ellis, Herbert Wesley,	*Bloomington.*
Galeener, John Halbert,	*Vienna.*
Hall, Frank Adolphus,	*Peoria.*
Hall, Samuel Powell,	*LaSalle.*
Horr, Ralph Ashley,	*Gibson City.*
Huff, Nolan Hynson,	*Center.*

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Hughes, Clarence Wilbert, A.B., 1900,	*Urbana.*
Hurlbut, James Ernest,	*Fulton.*
Jarrett, Thomas Lewis,	*Divernon.*
Jones, John William,	*Virden.*
Kincaid, Stewart William, A.B., 1902,	*Urbana.*
Marley, James Abraham,	*Paris.*
Melin, Carl August,	*Springfield.*
Miller, Ezra Emmeret,	*Dixon.*
Pond, Henry Everett,	*Greenview.*
Poor, Edwin Lindsay, A.B., 1902,	*Streator.*
Reid, Robin Roy,	*Greenville.*
Robinson, Lee Edgar,	*Virginia.*
Rosebery, Clarence Judson,	*Peoria.*
Spriggs, John Jack,	*Louisville.*
Strom, Alexander Jennings,	*Chicago.*
Taylor, David,	*Chicago.*
Tracey, Andrew Edward,	*Toluca.*
Wagoner, Edward Owen,	*Elliott.*
Wilson, John Guy,	*Gays.*

Specials

Beckemeyer, Herman Jacob Christ,	*Carlyle.*
Cameron, Glen James,	*Peoria.*
Casey, Charles Nicholas,	*Chicago.*
Crill, John Wilson,	*Rockford.*
Franklin, Dean,	*Macomb.*
Graham, James John,	*Springfield.*
Holmes, Frank Hamilton, LL. B., 1900,	*North Henderson,*
Keith, Cloyd Elias,	*Peoria.*
Kirker, George,	*Moweaqua.*
Kyte, John Felix,	*Milan.*
Lacy, Robert Wilber,	*Sullivan.*
Leaverton, Jae Ernest,	*Danville.*
Lewis, Warren E,	*Springfield.*
Mell, John Deloss,	*San Jose.*
Ogden, Charles Lewis,	*Cameron.*
Penwell, Frederick Bowman,	*Danville.*
Scott, John T,	*LaMoille.*
Taff, Albert Edgar,	*St. David.*
VanDevort, Paul Raymond,	*Tiskilwa.*
Wright, Judson Mason,	*Danville.*
Wright, William Wilberforce, Jr.,	*Toulon.*

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COLLEGE OF MEDICINE

(COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO)

SENIOR CLASS

Adams, Hicks Lowis, Ph.G. *(Drake Univ.)*, 1900, *Fontanelle, Ia.*
Altman, Maurice, *Lincoln.*
Amundson, Orrin C., *Estherville, Ia.*
Anderson, Emil Bernard, *Chicago.*
Anderson, Norman Edgar, *Marshfield, Wis.*
Anderson, Samuel Milligan, Ph.B. *(Coll. of Emporia)*, 1900, *Wichita, Kas.*
Ash, Mary Ella, B.S. *(Knox Coll.)*, 1893, *Oneida.*
Baird, Mary Brooks, A.B. *(Chicago Univ.)*, 1896, *Eureka, Kas.*
Balensiefer, Otto, Ph.G. *(Univ. of Illinois)*, 1897, *Joliet.*
Bamberger, George Washington, *Chicago.*
Barker, Frank Marion, A.M. *(Milton Coll.)*, 1898; M.D. *(Hahnemann Medical Coll)*, 1902, *Chicago.*
Barnes, Charles Edward, *Chicago.*
Barnes, Thornton B., *Connellsville, Pa.*
Barnsback, Jacob Lester, *Edwardsville.*
Barnum, William Truman, *Adrian, Mich.*
Barricelli, Giovanni Alfonso, A.B. *(St. Francis' Coll.)*, 1898, *Chicago.*
Bechtol, Mrs. Nancy Lee Martin, A.B. *(Wellesley Coll.)*, 1896, *Monmouth.*
Beck, Frank Pierce, *Brocton.*
Beck, Viola Bandy, *Brocton.*
Birney, Edith Stockton, M.D. *(Hahnemann Medical Coll.)*, 1902, *Washington, D. C.*
Birney, Varillas Cleuthas, Jr., *Green, Ia.*
Blough, George Franklin, *Mongo, Ind.*
Bottum, Charles Norman, B.S. *(Syracuse Univ.)*, 1900, *Westfield, Pa.*
Brown, Alice Barlow, M.D. *(Hahnemann Medical Coll.)*, 1896, *Chicago.*

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Brown, William Culp, M.D. *(National Medical Coll.)*, 1895, and *(Dunham Medical Coll.)*, 1898; D.D.S. *(Northwestern Dental Coll.)*, 1892, *Austin.*
Bryan, Thomas Albert, *Greencastle, Ind.*
Buchanan, Thomas Alva, *Tonganoxie, Kas.*
Burchett, Edwin, *Moulton, Ia.*
Burgess, Charles Oliver, *Fisher.*
Butterfield, Edwin J., *Crocker, Ia.*
Carpenter, Jessie Drew, *Chicago.*
Casavan, William Francis, *Sac City, Ia.*
Chapin, Anna Dewey, M.D. *(Hahnemann Medical Coll.)*, 1902, *Chicago.*
Clark, Frank H., M.D. *(Central Medical Coll., St. Joseph, Mo.)*, 1900, *Shambaugh, Ia.*
Clarke, Harry Payne, *Cairo.*
Claybaugh, William Ross, *Wayne, Neb.*
Cleveland, Charles William, *Chicago.*
Cohen, Sylvan Gabriel, *Chicago.*
Collins, Mrs. Metta Viola, *ElDara.*
Conley, Bernard Montrose, *Boone, Ia.*
Converse, Blanche Elizabeth, A.B. *(Univ. of Kansas)*, 1900, *Chapman, Kas.*
Copenhaver, John Harvey, *Bellflower.*
Crew, Eli Rich, *Waynesville, Ohio.*
Cummings, Henry Thompson, *Chicago.*
Dakin, Robert Griffin, *Melvin.*
De Neven, Arthur Valentine, *Green Bay, Wis.*
Derdiger, Aria Louis, *Chicago.*
Desmond, Michael Ambrose, *Rushford, Minn.*
Dewey, Bernard Montgomery, M.D. *(Geneva Coll., N. Y.)*, 1857, *Nashua, Ia.*
Dodds, David Chillingworth, *Idana, Kas.*
Doe, Albert Leroy, *Lake City, Minn.*
Donkle, Lucius Boardman, *Madison, Wis.*
Dorn, Frederick Reinhardt, *Waterville, Minn.*
Doty, Clarence Hayes, *Union, Ia.*
Dunn, Clara, *Chicago.*
Dvorak, Matthew William, *La Crosse, Wis.*
Eddy, Irving Herbert, *Audubon, Ia.*
Eldredge, Richard Leonard, *Chicago.*

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Estes, Ransom Logan, *Neoga.*
Fanyo, Fred, *Wateska.*
Faulkner, Louis, M.D. *(Chicago Homeopathic Coll.)*, 1896, *Austin.*
Fee, Louis Walter, B.S. *(Univ. of Iowa)*, 1899, *Quimby, Ia.*
Ficke, Emil Otto, *Davenport, Ia.*
Fisher, Frank Crist, *Chicago.*
Fisher, Oscar Gustav, *Chicago.*
Fogle, Clara, *Herrick.*
Forbes, Harvey James, *New Hampton, Ia.*
Forkin, William Patrick, *Chilton, Wis.*
Foster, Lloyd Bartmess, *Kansas City, Mo.*
Frechtling, Louis Henry, *Hamilton, Ohio.*
Fucik, Edward John, *Chicago.*
Gag, Edward William, *New Ulm, Minn.*
Gardner, George Albert, M.D. *(Harvey Medical Coll.)*, 1902, *Chicago.*
Gardner, Wilfred Henry, M.D. *(Chicago Homeopathic Coll.)*, 1902, *Bloomington.*
Geiger, Louis Henry, *Paxton.*
Geisel, Ezra Edward, *Wilmont, Minn.*
Gilhus, Adolph Thomas, M.D. *(Jenner Medical Coll.)*, 1902, *Chicago.*
Goldberger, Henry Enoch, Ph.G. *(Univ. of Illinois)*, 1890, *Chicago.*
Golembiowski, Julian J., *Chicago.*
Gourley, Frederick Lantz, *Paxton.*
Greaves, Walter Wood, *Austin.*
Groff, Robert Legg, *Lawrenceville.*
Haensler, Martha Annie, *Chicago.*
Hagen, Ollie Elluid, *Bergen, Norway.*
Hagyard, Charlton Edward, Ph.G., *(Pharmaceutical Assn., Province of Manitoba)*, 1897, *Winnipeg, Manitoba.*
Hall, Milton Weston, B.S. *(Mass. Inst. of Technology)*, 1900, *Evanston.*
Harrison, Calvin Willoughby, M.D. *(Harvey Medical)*, 1901; Ph.G. *(Vanceburg, Ky.)*, 1892, *Chicago.*
Hart, William Edward, *Galva, Ia.*

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Haskell, John Eddy, A.B. *(DePauw)*, 1897, *Green Castle, Ind.*
Hawkins, George Merrill, *Elkhorn Grove.*
Hays, Anna, *Clarksville, Ark.*
Helz, Joseph William, *Mt. Calvary, Wis.*
Hess, Meda, *Marash, Turkey.*
Hewins, Harry Augustin, *Rankin.*
Hilger, Joseph Michael, *Maxeppa, Minn.*
Hollen, Henry Brown, Ph.G. *(Wisconsin Univ.)*, 1899; M.D. *(Chicago Homeopathic Coll.)*, 1902, *Eau Claire, Wis.*
Holmes, Edward Marcellus, *Chicago.*
Holmes, Philip Henry, *Bloomington.*
Hood, Jacob Jesse, M.D. *(Jenner Medical Coll.)*, 1902, *Chicago.*
Hooge, Ludwig Frederick, M.D. *(Chicago Homeopathic)*, 1889, *Chicago.*
Horn, Archie Solomon, *Pewaukee, Wis.*
Houda, Emil Otto, *Chicago.*
Howard, George Herbert, *Onalaska, Wis.*
Howe, Lydston Drewett, *Streator.*
Ingham, George Meek, *Wilton, Ia.*
Jackson, Edward Worthington, *Kankakee.*
Jacobs, Harry Leonard, *Chicago.*
Jenkinson, Ernest Albert, *Sioux City, Ia.*
Jennings, Harriet Bell, *Marseilles.*
Jennings, Ralph Emmitte, *Templeton, Ind.*
Jensen, Anton Byron, *Chilton, Wis.*
Jewell, Milton Dana, B.S. *(Upper Iowa Univ.)*, 1899, *Decorah, Ia.*
Johnson, Julius A., *Disco, Wis.*
Johnson, Lyford McChesney, *Annawan.*
Johnson, Nellie Bernice, *Danville.*
Joice, Martin Thaddeus, *Waterloo, Wis.*
Jones, Margaret May, B.S. *(Iowa. State Coll. of Agriculture)*, 1897, *Mason City, Ia.*
Katz, Bernard Gerson, Ph.C. *(Armour Institute)*, 1899, *Yankton, S. D.*
Kaupp, Albert Theodore, M.D. *(Jefferson Medical Coll.)*, 1891, *Diller, Neb.*
Kavajian, Zaroohie Serope, *Adabazar, Turkey.*
Kenney, Harry Thomas, *Cherokee, Ia.*

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Ketchum, Frederick G., M.D. *(Hahnemann Medical Coll.)*, 1893, *Valparaiso, Ind.*
Kincaid, John Herbert, M.D. *(Jenner Medical)*, 1901, *Chicago.*
King, Robert Crump, *Emmetsburg, Ia.*
Kingston, Elwood Almon, *Picton, Ontario.*
Klinefelter, L. Edgar, *Center Point, Ia.*
Kuznik, Maxmilian, M.D. *(Jenner and Hering Medical Colleges)*, 1902, *Chicago.*
Lamb, James Garfield, *Bement, Ia.*
Landan, David Ralph, Ph.G. *(Univ. of Illinois)*, 1897, *Chicago.*
Lang, Henry William, *Chicago.*
Lebensohn, Mayer Harris, M.D. *(Hahnemann Medical Coll.)*, 1895, *Chicago.*
Leonard, Edward Franklin, M.D. *(Harvey Medical Coll.)*, 1902, *Chicago.*
Long, William Ernest, *Roodhouse.*
McCarthy, Harry C., *Richland Center, Wis.*
McCarty, Charles Elias, *Ancona, Fla.*
McGann, Michael Edward, *Joliet.*
Mack, Burton Wilson, *Chicago.*
McNeill, Neil Munn, M.D. *(Jenner Medcal Coll.)*, 1902, *Victoria, B. C.*
McNett, Clarence Lloyd, *Chicago.*
Madden, William Dunn, *Lyons, Ia.*
Maloy, Bernard Sylvester, *Renssalaer, Ind.*
Mead, Nehemiah Paul, Ph.G. *(State Univ. of Iowa)*, 1897, *Akron, Ia.*
Mellen, Charles Sylvester, *Chicago.*
Merrell, Henry Hudson, M.D. *(National Homeopathic Medical Coll.)*, 1896, *Chicago.*
Molnar, Helena Bozena, *Javornik, Moravia, Austria.*
Monahan, James John, A.B. *(Lehigh Coll.)*, 1900, *Tomah, Wis.*
Moore, Ernest Sisson, Ph.D. *(DePauw Univ.)*, 1892, *Chicago.*
Moore, Will H., *Bay City, Mich.*
Morgan, Charles McRae, A.B. *(Southwestern Presbyterian Univ.)*, 1893, *Camden, Ark.*

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Myers, Carleton Spencer, *Chicago.*
Napieralski, Emanuel Ferdinand, *Chicago.*
Nelson, Henry Eugene, *Decorah, Ia.*
Newfield, Hugo Hiendle, *Chicago.*
Nielson, Niels Nicolai John, *Chicago.*
Nowakowski, John J., *Chicago.*
Null, Marion Michael, B.S. *(Univ. of Illinois),* 1900, *Blandinsville.*
Oberholtzer, Edward James, *Williamsville.*
Parker, Don L., *Shelbyville.*
Parkinson, William Brigham, Jr., *Logan City, Utah.*
Penrice, Henry Milton, *Chicago.*
Phillips, Charles Eaton, A.B. *(Eureka Coll.),* 1900, *Millington.*
Phillips, William Chambers, Ph.G. *(Northwestern Univ.),* 1899, *Clarinda, Ia.*
Pickett, Charles Henry, *Chicago.*
Pitzele, William Aaron, *S. Chicago.*
Pokorney, Frank Joseph, Ph.G. *(Univ. of Illinois),* 1899, *Chicago.*
Poorman, Charles Wallace, *Junction City, Kan.*
Pope, Frank Waldemar, *Racine, Wis.*
Porges, Irving Angel, *Chicago.*
Porter, William H., *Beaulieu, N. D.*
Power, Lamar Matthew, *Escanaba, Mich.*
Powers, John William, *Savanna.*
Ransom, Charles Wallace, *Madison, Wis.*
Reay, Matthew Simpson, *Braceville.*
Reese, Ernest Gray, Ph.G. *(Michigan Univ.),* 1895, *Bowling Green, O.*
Reeves, Emory West, *Plymouth, Ind.*
Rightman, William Moris, *Chicago.*
Robbins, Emma Eliza, *Ord, Neb.*
Robbins, Nelson John, *Ishpeming, Mich.*
Roberts, Harry Burton, M.D. *(Jenner Medical Coll.),* 1902, *Chicago.*
Root, William Webster, B.S. *(Cornell Univ.),* 1900, *Chicago.*
Ryerson, Mrs. Esther Ann, *Simcoe, Ontario.*
Ryerson, Helen Louise, *Chicago.*
Sackett, Lloyd Melville, *Parsons, Kan.*

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Saunders, Clark Edward,	*Union, Ore.*
Seelye, Norman Lee,	*Lake Geneva, Wis.*
Seidel, Albert Christian William,	*Quincy.*
Sexton, Ira J.,	*Chicago.*
Seymour, Ernest DeLacey,	*Dwight.*
Shepherd, William Arthur,	*Seymour, Wis.*
Sherrill, Joseph Johnston,	*Union City, Tenn.*
Sibley, Leroy Hall,	*Terre Haute, Ind.*
Smith, James Lawrence,	*Chicago.*
Snyder, Charles Watson, M.D. *(Toledo Medical Coll.)*, 1898,	*Richfield Center, O.*
Spriggs, Gertrude Anna, M.D. *(Coll. of Physicians & Surgeons of San Francisco)*, 1900,	*San Francisco, Cal.*
Stoops, Roy Philson, A.B. *(Oklahoma Univ.)*, 1898,	*Norman, Okla.*
Stoughton, Elgin Leroy,	*Mt. Monah, Mo.*
Strawn, Julia Clark, M.D. *(Hahnemann Medical Coll.)*, 1897,	*Chicago.*
Stuenkel, Arthur John,	*Arlington Heights.*
Sure, Julius Hilton,	*Chicago.*
Swarthout, Ellis Frank,	*Pine Island, Minn.*
Szwajkart, Adam, M.D. *(Bennett Coll.)*, 1897,	*Chicago.*
Thayer, Frederick Almon,	*Chilton, Wis.*
Thomas, Benjamin,	*Macon, Miss.*
Thomas, Matilda Minnis,	*Macon, Miss.*
Thompson, Gertrude Fanny,	*Chicago.*
Tomhagen, Mrs. Laura S.,	*Chicago.*
Tufts, Frank Servetus, M.D. *(Harvey Medical Coll.)*, 1900,	*Chicago.*
Tweedall, Daniel Greenwood,	*Evansville, Ind.*
Ullman, Eva Prescott,	*Chicago.*
Uran, Joseph Alfred,	*Kankakee.*
Urmston, Paul Robert,	*Hamilton, O.*
Vance, Harvey Marshall,	*Bement.*
Vaughan, Harry Floyd,	*Swanton, O.*
Von der Heydt, Robert,	*Chicago.*
Voris, Henry McMunn,	*Neoga.*
Vorsanger, Mrs. Rosa,	*Chicago.*
Waddle, Herbert Clarke,	*Chicago.*

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Wagner, Thurman Lester,	*Chicago.*
Wagner, William Christian,	*Vinton, Ia.*
Walsh, John Poler, M.D. *(Harvey Medical Coll.)*, 1902,	*Chicago.*
Was, François John Theodorus,	*Chicago.*
Waufle, Guy Clifford,	*Milton Junction, Wis.*
Wear, Newton Whitney,	*Plymouth.*
Webber, Blanche Edith, M.D. *(Harvey Medical Coll.)*, 1902,	*Chicago.*
Webster, Josephine Ella,	*Chicago.*
Weld, James C.,	*Chicago.*
Werner, Nels Lawrence,	*Diamond Bluff, Wis.*
Wessels, Walter Fred,	*Quincy.*
White, William Seymour, M.D. *(Chicago Homeopathic Coll.)*, 1888,	*Chicago.*
Whitehill, Frank Perrine, M.D. *(Harvey Medical Coll.)*, 1902,	*Silver City, N. Mex.*
Wichmann, Henry Thomas,	*Chicago.*
Wicks, Seth,	*Akron, Ind.*
Williams, Charles Lafayette,	*Chicago.*
Willson, Lamont Roy,	*New Hampton, Ia.*
Wilson, James William,	*Chicago.*
Winne, Charles Walter, Ph.C. *(Univ. of Illinois)*, 1897,	*Chicago.*
Winston, Verne Ernest,	*Evansville, Wis.*
Wochos, Wenzel Matthias,	*Stangelville, Wis.*
Wood, James Manley,	*Chicago.*
Xelowski, Thaddeus, Ph.G. *(Univ. of Illinois)*, 1897,	*Chicago.*
Young, James Aurelius,	*Rankin.*
Young, Simon J., M.D. *(Harvey Medical Coll.)*, 1902,	*Chicago.*

JUNIOR CLASS

Alrutz, Louis Ferdinand,	*Chicago.*
Archer, Charles Andrew,	*Arkadelphia, Ark.*
Armstrong, Jay Latrell,	*Urbana.*
Ash, Ray C.,	*Ashland, O.*
Axe, Ross Harrison,	*Morocco, Ind.*
Ayers, Chester Arthur,	*Des Moines, Ia.*
Baer, Samuel W., A.M. *(De Pauw Univ.)*, 1898,	*Nappanee, Ind.*

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Bahl, William Henry, *Moline.*
Bankerd, Howard Roswell, *Euphemia, O.*
Barker, Clarence Dryden, *Austin.*
Baumgart, Fred, *Danville.*
Bean, James Robert, *Washington, Ind.*
Beardsley, Carolyn Frances, *Highland Park.*
Beattie, Helen Pearl, *Chicago.*
Beck, Judah Bezal, *Chicago.*
Beisenthal, Max, *Chicago.*
Beveridge, George, A.B. *(Monmouth Coll.),* 1899, *Victor.*
Blackmer, Frank J., *Albert Lea, Minn.*
Blackmer, Loven, Jr., *Albert Lea, Minn.*
Blumenthal, Robert Warren, *Columbus, Wis.*
Blumstein, David Barnett, *Butte, Mont.*
Boehmer, Olav, A.B. *(Univ. of Christiania, Norway),* 1888, *Chicago.*
Bond, Xenia Ethel, A.M. *(Salem Coll.),* 1902, *Aberdeen, W. Va.*
Bordwell, Frederick Alonzo, *Stillwater, Minn.*
Brittin, Fred, *Springfield.*
Burke, Richard Ames, *Ishpeming, Mich.*
Carmack, Albert Orton, *Camargo.*
Case, Schuyler Winfred, *Cherry Valley.*
Cavanaugh, John Algernon, *Chicago.*
Coffin, Charles Albert, *Adrian, Mich.*
Cole, Daniel Thomas, *Rantoul.*
Colliver, Samuel Noel, *West Grove, Ia.*
Cone, D. Edmund, *Otsego, O.*
Coons, John Milton, *West Grove, Ia.*
Court, Harry Marshall, *Buffalo, N. D.*
Cremer, Peter Hubert, *Cashton, Wis.*
Curney, Frank Richard, *Chicago.*
Cuttle, Frederick, *Chicago.*
Dale, John R., *Fremont.*
David, Frank Elmer, D.D.S. *(Chicago Coll. of Dental Surgery),* 1892, *Chicago.*
Deacon, Francis, *Chicago.*
De Cou, Susie Marion, *Chicago.*
De Menil, Henry Nicholas, *Chicago.*
Dewitz, Otto John, Ph.G. *(Univ. of Illi-*

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nois), 1902,	*Chicago.*
Dickey, Samuel James,	*Hartstown, Pa.*
Dielman, Frank Commodore,	*Akron, Ind.*
Dillon, Bert John,	*Chicago.*
Eisendrath, Jacob Leonard,	*Chicago.*
Ericson, Charles Eric,	*Quincy.*
Ewan, Robert Thornton,	*Cuba.*
Foltz, J. Eliot,	*Little River, Kan.*
Fritz, Albert Levi,	*Earlham, Ia.*
Gailey, William Watson,	*Ashland.*
Geisen, Charles William,	*Calmar, Ia.*
Gordon, Edmund Stanislaus,	*Chicago.*
Gotthelf, Isaac Lott,	*Denver, Col.*
Greaves, Joseph Ainsworth,	*Austin.*
Gregg, Helen Elvira,	*Chicago.*
Grimson, Esther,	*Chicago.*
Gunderson, Cornelius,	*Chicago.*
Haberman, Emil,	*Alpha, S. D.*
Haessley, Stephen Benedict,	*Herbert, Wis.*
Hagans, Grace Frith,	*Chicago.*
Halliman, Edward Leo,	*Clinton, Ia.*
Halverson, Henry Louis,	*Cashton, Wis.*
Hammel, Seth A.,	*Topeka, Kan.*
Harman, Ira Chase,	*Milford.*
Harnett, Arthur Lee,	*Chicago.*
Harrington, William Emery,	*Owatonna, Minn.*
Harris, Wayne Adelbert,	*Centerville, Ia.*
Haslit, Percy Parker,	*Dolson.*
Hatfield, Chalmer Nathan,	*Fostoria, O.*
Hattery, Hillis H.,	*Waterloo, Ia.*
Hawkins, Andrew Peter,	*Spring Valley, Minn.*
Heffelfinger, Miles Akin,	*Grundy Center, Ia.*
Heinen, Aloys,	*Chicago.*
Henning, Albert Francis,	*Newell, Ia.*
Herrman, Alfred Angus,	*Chicago.*
Hinman, Willis Townsend, Ph.G. *(Northwestern Univ.)*, 1895,	*Cambridge.*
Hinton, Ralph Thompson,	*Quincy.*
Hood, Mary E.,	*Sioux City, Ia.*
Horstman, Frank Marion,	*Barron, Wis.*
Hostetter, Abram,	*Mt. Carroll.*

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Houk, William Frederick, *Crown Point, Ind.*
Hundley, James Barnett, *Rome, Ky.*
Hutchinson, Owen Ghormley, *Clarence.*
Jackson, Mary Tenelle, *Coalport, Pa.*
Jacobs, John Martin, Jr., *Chicago.*
Jacoby, William Kaull, *Wells, Minn.*
Jones, Charles Everett, Ph.G. *(Univ. of Illinois)*, 1898, *Oak Park.*
Joyce, George Timothy, *Stewartsville, Mo.*
Kaemmerling, Theodore Simon, *Chicago.*
Keefe, Frank Miles, *Clinton, Ia.*
Ketchum, Ellen Pauline, *La Prairie.*
King, Charles Joseph, *George, Ia.*
Knipe, James Bolton, Ph.G. *(Drake Univ.)*, 1900, *Parkersburg, Ia.*
Koons, Susan Lilian, *Harveyville, Pa.*
Kruk, George Joseph, *Chicago.*
Landau, Benjamin Gabriel, *Chicago.*
Landmann, Gustave Adolph, *Scotland, S. D.*
Le Master, Benjamin E., *Bushnell.*
Longstreet, Martha L., *Bay City, Mich.*
Loupee, Sherman L., *Williamsville, Mich.*
Luke, Edward, *Danville.*
MacCracken, Walter Herrington, *Chicago.*
McCracken, Robert Edward, Ph.G. *(Chicago Coll. of Pharmacy)*, 1893, *Central City, Neb.*
McWhorter, Port, *Miller, S. D.*
Markley, George Washington, *Defiance, O.*
Marvel, Luther Martin, *Waynesville.*
Mattison, Charles Wesley, B.S., *(Penn Coll., Oskaloosa)*, 1900, *Oskaloosa, Ia.*
Mayer, Edward Anton, Ph.G. *(Univ. of Wisconsin)*, 1894, *Kaukauna, Wis.*
Merritt, Frank W., *Centerville, Ia.*
Montgomery, James Redman, *Cynthiana, Ind.*
Moore, Clara, *Kewaunee, Wis.*
Morden, Roy Robert, *Jefferson, Ia.*
Morris, Robert Lyman, *Maroa.*
Morton, Davis Holmes, *Elmwood.*
Movius, Leonard Bruce, *Lidgerwood, N. D.*
Murphey, Mrs. Veda Chipperfield, *Cuba.*

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Murphy, Bernard E.,	*Chicago.*
Newcomb, Cyrus Forsyth,	*Champaign.*
Oake, William Thomas, Ph.G. *(Northwestern School of Pharmacy)*, 1892,	*Chicago.*
Osborn, William Shelton,	*Rippey, Ia.*
Patera, Edward, Ph.G. *(Northwestern School of Pharmacy)*, 1895,	*Chicago.*
Pollock, Edith Cory,	*Chicago.*
Reed, William Henry, A.B. *(Univ. of Iowa)*, 1900,	*Mankato, Kan.*
Reitman, Benjamin Leopold,	*Chicago.*
Replogle, Joseph Francis,	*Pontiac.*
Robinson, John Wirt, B.S. *(Coll. of Montana)*, 1899,	*Chicago.*
Rubel, Harry Francis,	*Le Mars, Ia.*
Sayad, Elisha Elijah,	*Oroomiah, Persia.*
Schallert, Paul Otto,	*Johnson's Creek, Wis.*
Schultz, Louis, D.D.S. *(Chicago Coll. of Dental Surgery)*, 1901,	*Chicago.*
Sherlock, Margaret,	*Martinsburg, Ia.*
Simpson, William Likely,	*Diagonal, Ia.*
Smith, Clyde Leroy,	*Leipsic, O.*
Spencer, William Henry,	*Vinton, Ia.*
Starck, Carl Adam,	*Palatine.*
Stevens, Robert Edward,	*Rochelle.*
Swab, Charles Casper,	*Cedar Rapids, Ia.*
Sweet, Hartford Doolittle, A.B. *(Univ. of Oregon)*, 1901,	*Mt. Etna, Ia.*
Swift, Fred James,	*Maquoketa, Ia.*
Tanguary, Flora Martina,	*Albion.*
Taylor, Frank Bashford,	*Madison, Wis.*
Teigen, Margaret,	*Fargo, N. D.*
Thomas, Edna Margaret,	*Monticello, Ia.*
Thomas, George Henry,	*Chicago.*
Thorpe, John Norton,	*Chicago.*
Twohig, David James,	*Armstrong, Wis.*
Vopata, William John,	*Chicago.*
Wall, Clarence Harrison,	*Chicago.*
Wilmot, Clauson Morril,	*Camp Grove.*
Winbigler, B. Rex,	*Gerlaw.*
Windmuller, Charles,	*Chicago.*

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Wing, Florence Anna, *Chicago.*
Wistein, Mrs. Rose Rehor, *Chicago.*
Wood, Frank Leighton, *Superior, Wis.*
Wood, Orlando Garfield, *Chelsea, Mich.*
Yates, Charles Everett, *Marks, Kan.*
Young, William Hamilton, B.S. *(Univ. of North Dakota)*, 1899, *Chicago.*

SOPHOMORE CLASS

Abbott, Effie Louise, *Dowagiac, Mich.*
Bagley, Henry Patterson, *Chicago.*
Baker, Nellie M., *Onarga.*
Ballou, Jesse, *Pleasant View.*
Beck, Fred Oswald, Ph.G. *(Northwestern Coll. of Pharmacy)*, 1899, *Dubuque, Ia.*
Berglund, Simon, B.S. *(Augustana Coll.)*, 1901, *Marinette, Wis.*
Bergman, Gustaf, B.S. *(Augustana Coll.)*, 1901, *Rock Island.*
Borges, David Gladstone, *Chicago.*
Bowen, Fred Phelps, *Richland Center, Wis.*
Brixey, James Carse, *Chicago.*
Brown, Frederick, *Coal City.*
Browne, John Payne, *Chicago.*
Buchan, Edward James, *Racine, Wis.*
Burnside, Lyman Ambrose, *Dolson.*
Bybee, Addison, *Rochester, Ind.*
Cady, Matthew Philander, *Birnamwood, Wis.*
Caron, Arthur James, *Bourbonnais.*
Caron, Walter, Ph.G. *(Univ. of Illinois)*, 1900, *Chicago.*
Christenson, John August, B.S. *(Augustana Coll.)*, 1900, *Jamestown, N. Y.*
Clark, Charles Cornelius, *Neoga.*
Crouch, James Adam, *Belle Prairie.*
Cuthbert, Fred Sheets, *Hollandsburg, Ind.*
Daly, John Michael, *Chicago.*
Davies, Bertram Charles, *Downer's Grove.*
Davies, Harriett, A.B. *(Ripon Coll.)*, 1901, *Eldorado, Wis.*
Davies, Leora Ensign, *Crookston, Minn.*
Davis, Russell, *Hanna.*

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Dawes, Leonard Pratt, *Monroe Center, Wis.*
Dean, George Almarion, *Chicago.*
Dostal, Ferdinand Edward, *Chicago.*
Downs, Jirah Marston, *Waterville, O.*
Dunshee, Vernon Amasa, *Mt. Carroll.*
Edwards, James Edward, A.B. *(Wofford Coll.)*, 1900, *Abbeville, S. C.*
Egan, John Bernard, *Muscoda, Wis.*
Egan, John Joseph, *Chicago.*
Egan, Thomas Sylvester, *Lawler, Ia.*
Egan, William Johnson, *Chicago.*
Farquhar, David Clifford, *West Brownsville, Pa.*
Fastabend, Frank Bernhardt, *Chicago.*
Folckemer, Harry Rox, *Camp Point.*
Forkin, George Edward, *Chilton, Wis.*
Ganoe, Charles Vergil, *Ogden, Ia.*
George, William Adolph, Ph.G. *(S. D. Agricultural Coll.)*, 1900; B.S. *(S.D. Agricultural Coll.)*, 1902, *Gettysburg, S. D.*
Gordon, J. Matt, *Weatherford, Okla.*
Grant, Oscar Emanuel, *New Windsor.*
Gray, William Karg, *Chicago.*
Grout, Benjamin Chase, *Chicago.*
Grove, Martin Melvin, *Plainview, Minn.*
Hagans, Frank M., *Browning.*
Hastings, Patrick Henry, Ph.G. *(Illinois Medical Coll.)*, 1902, *Bailey, Ia.*
Hattendorf, Jessie Henrietta, *Waterloo, Ia.*
Hayton, Arthur Russell, *Battle Creek, Mich.*
Hiett, Alva, *Monmouth.*
Higgins, Samuel George, B.S. *(Wisconsin Univ.)*, 1902, *Sault Ste. Marie, Can.*
Hinds, Mrs. Anna Mary, B.L. *(Knox Coll.)*, 1892, *Berwyn.*
Hoeve, Hubert, *Chicago.*
Hoover, Emerson Francis, *Idana, Kan.*
Hopkins, Fred Grant, *Chicago.*
Jacks, Ruffin Barrow, *Nero, La.*
Jarvis, Edward Taylor, *Plymouth.*
Jefferson, Harry Asbury, *Menomince, Wis.*
Jennings, Arthur G., *New London, Wis.*

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Johnson, Harold Herbert, *Wilton Junction, Ia.*
Johnson, Henrietta Amanda, *Blair, Wis.*
Jones, Fred Wade, *Chicago.*
Kearney, James Francis, *Chicago.*
Kelley, Charles Dilworth, *Chicago.*
Kelley, Frank Hetherington, *Chicago.*
Kelso, Curtis Elmer, *Thomasboro.*
Kemp, Harold Brooke, Ph.G. *(Chicago Coll. of Pharmacy)*, 1902, *Momence.*
Keyes, Harley Emmett, *Chicago.*
Kubricht, Theophilus, *Chicago.*
Kuhn, Leroy Phillip, *Chicago.*
Lawyer, William Martin, *Ellendale, N. D.*
Leviton, Emil Zola, *Chicago.*
Lochead, Jeane, *Jesup, Ia.*
Lundwall, Lawrence Svante Bernhard, B.S. *(Augustana Coll.)*, 1901, *Brockton, Mass.*
Maher, Thomas Francis, *Chicago.*
Meeks, Clark C., *Pontiac.*
Melvin, Wheeler Hayes, *Avalanche, Wis.*
Merritt, Charles Walter, *Chicago.*
Mikkelsen, Agnes, *Chicago.*
Miller, Eben Perry Sturges, A.B. *(Hillsdale Coll.)*, 1894, *Pentwater, Mich.*
Montgomery, William, *Eau Claire, Wis.*
Moore, George Wilford, *Kewaunee, Wis.*
Morden, Leone L., *Jefferson, Ia.*
Mount, William Chalmers, *Darlington, Ind.*
Murphy, John Patrick, *Chicago.*
Myers, Louis Winfield, *Argenta.*
McArthur, Charles, *Hartley, Ontario.*
Norton, Ralph Waldo, *Farmington.*
Oarby, Ernest Johnson, A.B. *(Upsala Univ.)*, 1897, *Chicago.*
Okerstrom, Albert, B.S. *(Augustana Coll.)*, 1898, *Anoka, Minn.*
Olsson, Olof, A.B. *(Augustana Coll.)*, 1900, *Grand Rapids, Mich.*
O'Neill, Frank William, A.B. *(Univ. of Minnesota)*, 1902, *Graceville, Minn.*
Overholt, Roscoe Earle, *Columbus Junction, Ia.*
Palm, Carl August, *Chicago.*

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Parke, George,	*Richland Center, Wis.*
Peisch, Benjamin Frederick,	*Burlington, Ia.*
Peterson, Enoch Fred, Ph.G. *(Univ. of Illinois)*, 1901,	*Chicago.*
Peterson, Henry Christian,	*Bethany, Cal.*
Pirosh, Sigmar,	*Chicago.*
Porteus, Roy Whittier,	*West Lafayette, O.*
Powell, Clarence Day,	*Chicago.*
Powers, George J.,	*Streator.*
Ranseen, Carl Mathew, B.S. *(Univ. of Wisconsin)*, 1901,	*Chicago.*
Roach, Harry Andrew,	*Heart Prairie, Wis.*
Rodemeyer, Frederick Henry,	*Latimer, Ia.*
Roth, Albert Alexander,	*Chicago.*
Rudnick, Frederick, Ph.G. *(Chicago Coll. of Pharmacy)*, 1893,	*Chicago.*
Rule, Ross,	*Ishpeming, Mich.*
Savage, Robert Garfield,	*Chicago.*
Schaffarzick, Charles Frank, Ph.G. *(Univ. of Illinois)*, 1901,	*Livingston, Mont.*
Schell, Charles Peter,	*Chicago.*
Schmidt, Charles Henry, Ph.G. *(Univ. of Illinois)*, 1902,	*Chicago.*
Schullian, Orie Frank,	*Quincy.*
Sears, Annina Belle,	*Kansas City, Mo.*
Secker, William Valentine,	*Wheaton.*
Shimer, Frank Elmer,	*La Porte City, Ia.*
Sintzel, Rudolph Virchow,	*Niles Center.*
Slocumb, Hugh Henry,	*Winona, Minn.*
Slocumb, Maude Stephens,	*Keithsburg.*
Smith, Obed Moses,	*Lilly Lake.*
Stangland, Arthur K.,	*Chicago.*
Stearns, Lester Miles,	*Oak Park.*
Stough, Raymond Ward,	*Bryan, O.*
Strayer, Lucile Irene,	*Chicago.*
Sturgeon, Clarence Everett,	*Clarion, Ia.*
Thomas, Harry Veder,	*Chillicothe.*
Tupper, Eugene Ellsworth,	*Chicago.*
Vanatta, Fay McVey,	*Randolph, Ia.*
Van Kirk, George Hiram,	*Leiters, Ind.*
Weir, Silas Wilkin,	*West Union.*

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Wentz, Herbert Bertram, *Chicago.*
Werner, Charles Frank, *Fond du Lac, Wis.*
Weyer, Ross Steele, *Chicago.*
Willhite, Frank Vanatta, *Grant City, Mo.*
Willits, Ira Raymond, *Keithburg.*
Winsett, Clifford V., Ph.B. *(Grinnell Coll.)*, 1900; Ph.G. *(Drake Univ.)*, 1901, *Waterloo, Ia.*
Woolston, Wesley John, *Geneva.*
Yocum, E. Lyle, *Grand Ridge.*
Zurawski, Frank Narcissus, *Chicago.*

FRESHMAN CLASS

Anderson, Alma S., *Seattle, Wash.*
Auld, Ralph J., *Chicago.*
Bauer, Fred, *Center Point, Ia.*
Beeson, B. Barker, *Chicago.*
Bird, James Bowdon, *Mason City.*
Boal, Daniel, *Chicago.*
Bock, John J., *Iowa Falls, Ia.*
Bowman, William Townzen, Ph.G. *(Univ. of Illinois)*, 1898, *Moweaqua.*
Bowsher, Frank Llewellyn, *Greenville, O.*
Brosseau, Jesse Edward, Ph.G. *(So. Dak. Agricultural Coll.)*, 1900; B.S. *(So. Dak. Agricultural Coll.)*, 1901, *Chicago.*
Brown, Harry Stafford, *Nobleville, Ind.*
Campbell, Jane Marshall, *Chicago.*
Carmen, Henry Ferrell, *Anaconda, Mont.*
Caron, Adolph Raphael, *Bourbonnais.*
Clark, Edward Harry, *Vinton, Ia.*
Cleveland, Austin Lorin, *Chicago.*
Cohen, Hyman, *Chicago.*
Cremin, William Joseph, *New Haven, Conn.*
Croft, Albert Joseph, *Chicago.*
Crofut, Bertha Marilla, *Chicago.*
Cronin, John James, *Chicago.*
Davis, Huldah, *Essex, Ia.*
Dixon, Charles Hall, *Wichita, Kan.*
Dvorak, Georgiana Margaret, *Chicago.*
Edgcomb, John Harold, *Utica.*
Edison, Samuel, *Chicago.*

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Egan, James John,	*Chicago.*
Fairhall, Leo Victor,	*Danville.*
Fast, Harry DeWitt,	*Princeville.*
Fenton, Thomas Justine,	*Ames, Ia.*
Finney, Ernest Orion,	*Rankin.*
Flannery, Robert Emmet,	*Lone Rock, Wis.*
Fomon, Samuel,	*Chicago.*
Furstman, Jacob Michael,	*Chicago.*
Gardner, Miriam,	*Pasadena, Cal.*
Garstang, Ira Clifford,	*Chicago.*
Glenn, Edward Andrew,	*Chicago.*
Glenn, Joseph,	*Chicago.*
Grable, Harry George,	*Logansport, Ind.*
Haeffner, Albert William,	*Chicago.*
Harding, Charles Augustus,	*Bloomington.*
Harris, Louis Julius,	*Chicago.*
Harris, Ray Rhinaldo,	*Champaign.*
Harwood, Dorsey Alford,	*Ancona.*
Hatfield, Lena C., A.B. *(Simpson Coll.)*, 1895,	*Chicago.*
Hoover, Enos M,	*Nappanee, Ind.*
Horn, Emmett Eugene,	*Moulton, Ia.*
Howard, Charles Earl,	*Clermont, Ind.*
Huntoon, Harry Alonzo,	*West Duluth, Minn.*
Jewell, Earl Bowen,	*Danville.*
Kane, Martin Henry,	*Chicago.*
Keller, Sam,	*Sioux Falls, S. D.*
Kelly, James William,	*Chicago.*
Kennelly, Frank Clair,	*Easton.*
Knappenberger, T. Gaillard,	*Macomb.*
Knowles, Edwin Winslow,	*Chicago.*
Kraus, Harry Adam,	*Chicago.*
Krueger, Arthur Henry Richard,	*Chicago.*
Lamczyk, Frank,	*Chicago.*
Lawson, John Fonrose,	*Neoga.*
Leuthold, Samuel Alfred,	*Bucyrus, O.*
Loofbourrow, Elias Homer,	*New Madison, O.*
Luken, Edward Emil,	*Chicago.*
Luken, Martin Girard,	*Chicago.*
McLean, George A.,	*Whitewater, Wis.*
Matheson, William Panton,	*Billings, Mont.*

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Miller, Leo Cassius,	*Princeville.*
Miller, Noble Williams,	*Chicago.*
Moldenhauer, William John,	*Des Plaines.*
Moore, Ralph Vernon,	*Chicago.*
Morrow, Louise,	*Chicago.*
Morrow, Nelson Case,	*Chicago.*
Movins, Alfred Henry,	*Lidgerwood, N. D.*
Muirhead, Walter Scott,	*Chicago.*
Nay, Carl Winfield,	*Chicago.*
O'Leary, Thomas J.,	*Wabasha, Minn.*
Olson, Alfred Louis,	*Stoughton, Wis.*
O'Neil, John Patrick,	*Chicago.*
O'Neil, William Edward,	*Chicago.*
Osborn, George Robert,	*Hanna, Ind.*
Ostrowski, Rommald Othello,	*Hammond, Ind.*
Oughton, James Henry,	*Dwight.*
Park, Simon Joseph,	*Chicago.*
Parker, Freeman Theodore,	*Kenosha, Wis.*
Peterson, Martin David Ephraims,	*Paxton.*
Pettit, Herbert Leroy,	*Chicago.*
Pillinger, Herbert Henry,	*Chicago.*
Pitz, Robert Henry,	*Chicago.*
Polka, Mrs. Julia Anna,	*Chicago.*
Pollock, Lewis John,	*Chicago.*
Post, John Frederick Wilken,	*Petersburg.*
Provine, George Sumner,	*Macomb.*
Rach, Emil Arthur,	*Mitchell, Wis.*
Rego, Alfred d'Almeida,	*Chicago.*
Reynolds, John Frank,	*Kirksville, Mo.*
Rice, Merton Henry,	*Barron, Wis.*
Rizer, Robert Inskeep,	*Chicago.*
Robin, Samuel M.,	*Chicago.*
Rogge, Herr Wilhelm,	*Chicago.*
Rose, Joseph F.,	*Green Bay, Wis.*
Ross, George William,	*Chicago.*
Ruus, Canute Walter,	*Chicago.*
Salomon, Richard Sigmund,	*Chicago.*
Schilling, Julius,	*Alma, Wis.*
Schmidt, Lawrence Maurice,	*Belvidere.*
Schwartz, Mary,	*Chicago.*
Schwartz, Reinhard,	*Lyons, Ia.*

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Seibert, Henry Hulse,	*Chicago.*
Shelly, Hargus Gerald,	*Mulvane, Kan.*
Siders, W. Bert,	*New Carlisle, Ind.*
Smith, Charles Kenneth,	*Kankakee.*
Smith, Lloyd Fisher,	*Chicago.*
Smith, William Lester,	*Toledo.*
Sorenson, Alfred Renhart, A.B. *(Luther Coll.)*, 1902,	*Harmony, Minn.*
Stevens, Fanning Oatis,	*Oak Park.*
Stevens, Fred Warner,	*Chicago.*
Sunderland, William Eben,	*Cavette, O.*
Theobald, Frank J.,	*Niles Center.*
Tillotson, Charles Homer,	*Chicago.*
Wagner, Frederick John,	*Chicago.*
Walsh, Edward James,	*Chicago.*
Watson, Waleska Hester,	*Chrisman.*
West, William Butler,	*Chicago.*
Wickstrom, Albert Michael,	*Chicago.*
Wood, William Walter,	*Chicago.*
Woodnick, George,	*Austin.*
Woods, Bert Leslie Taylor,	*Chicago.*
Yampolsky, Rebecca Miriam,	*Chicago.*
Zaleski, Boleslaw,	*Chicago.*
Zeebuyth, Charles Benjamin,	*Montesano, Wash.*

SPECIAL AND UNCLASSIFIED

Baldwin, Charles Frederick,	*Appleton, Wis.*
Briggs, W. W.,	*Chicago.*
Christopher, J. F.,	*Chicago.*
Corey, Walter B.,	*Chicago.*
Gindele, George William,	*Chicago.*
Grant, Lida,	*Monongahela, Pa.*
Hagaman, H. C.,	*Chicago.*
King, Mrs. Lillian,	*Chicago.*
Nebeker, Elbert Ferguson, Ph.G. *(Chicago Coll. of Pharmacy)*, 1895,	*Chicago.*
O'Connell, John Patrick,	*Bloomington.*
Osher, Julius C., D.D.S. *(Northwestern Univ.)*, 1900,	*Chicago.*
Perry, Benjamin, Ph.G. *(Univ. of Illinois)*, 1901,	*Melvin.*

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Slater, E. C.,	*Piasa.*
Sullivan, John Baptiste, A.B. *(Gonzager Coll.),*	*Anaconda, Mon.*
Truelsen, Thomas, Jr.,	*Omaha, Neb.*

SCHOOL OF DENTISTRY

SENIOR CLASS

Adams, Lysle Edwin,	*Austin.*
Altenberg, Conrod Frederick,	*Mauston, Wis.*
Applegate, Edward Walter,	*Viola.*
Bawden, Steven Richard,	*Mount Carroll.*
Bond, John Henry,	*Milwaukee, Wis.*
Broman, Alfred Alexander,	*Chicago.*
Cadwallader, Harry,	*Chicago.*
Catterson, Lorace,	*Pardeville, Wis.*
Erlands, John Oscar,	*Racine, Wis.*
Finley, Charles Alfred,	*Chicago.*
Gottlieb, Leo,	*Chicago.*
Greenfield, Arthur Raymond,	*Pawnee City, Neb.*
Grissom, Milton Abasolem,	*Cape Girardeau, Wis.*
Hanna, Edward A.,	*Chicago.*
Hill, Harlow Henry,	*Winnebago City, Minn.*
Holly, Francis Albert,	*McHenry.*
Hulla, Edward,	*Chicago.*
Johnson, Elmer Nichols,	*Chicago.*
Karcher, William Henry,	*Champaign.*
McElroy, Joseph Daniel,	*Chicago.*
Mann, Alfred Harlan,	*Rochester, Mich.*
Maturznska, Tekla,	*Chicago.*
Monahan, James Emmett,	*Chicago.*
Murray, Martin Guy,	*Bear Valley, Wis.*
Newlin, Alden Richard,	*Chicago.*
O'Neil, Veo Erwin,	*Canton, S. D.*
Paden, Seymour Davis,	*Camden, Ind.*
Palmer, George Frederick,	*Kewanee.*
Peck, Guy Stanley,	*Durand, Wis.*
Post, William Morton,	*Chicago.*
Rasmussen, Niels Peter,	*Chicago.*
Reinbold, John Edward,	*Chilton, Wis.*
Richardson, Claude Erwin,	*Tower Hill.*

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Ryan, Frank John,	*Chicago.*
Scott, James,	*Tarkio, Mo.*
Sprague, Thomas Harvey,	*Wenona.*
Stahl, Frank Murray, B.S. *(Tarkio Coll.)*, 1900,	*Tarkio, Mo.*
*Stangel, Frank,	*Manitowoc, Wis.*
Swartz, Frederick Holstein,	*Yorkville.*
Taylor, William Frank,	*North Fond du Lac, Wis.*
Taylor, William Henry,	*Vermont.*
Van Voorhis, Frederick Wilson,	*Des Moines, Ia.*
Wardner, George Horace,	*La Porte, Ind.*
Waterman, Charles Edwin, Jr.,	*Chicago.*

JUNIOR CLASS

Abstein, Charles Eugene,	*Chicago.*
Beach, Clayton Lyman,	*Hull, Ia.*
Beringer, Eric,	*Belton, Tex.*
Berryman, William L.,	*Apple River.*
Brady, George,	*Chicago.*
Carey, May,	*Chicago.*
Cohen, Israel,	*Chicago.*
Converse, Albert Edward,	*Springfield.*
Cooley, Vernon Pentfield,	*Sharon, Wis.*
Dickenson, Herbert Allen,	*Montrose, S. D.*
Fogle, Aaron,	*Herrick.*
Frey, Joseph Clark,	*Rock Island.*
Glenn, Edward,	*Tarkio, Mo.*
Gorney, William Albert,	*Chicago.*
Granger, Frank Riley,	*Plainwell, Mich.*
Grout, John Carlton,	*Rock Rapids, Ia.*
Gunn, Robert John,	*McCook, Neb.*
Hobbs, Woodie Clay,	*Mobile, Ala.*
Holmes, John,	*Ogden.*
Ireland, Thomas John,	*Chicago.*
Jack, Samuel Timothy,	*British Guiana.*
Jacobs, Charles Theodore,	*Burlington, Wis.*
Jones, George Arthur,	*Flanigan.*
Kenny, Edward, Jr.,	*Manistee, Mich.*
Lee, Henry Cooley, Ph.G. *(Northwestern Univ.)*, 1898,	*Chicago.*

*Deceased.

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Lichtenberg, Albert Bruno,	*Chicago.*
Loescher, Charles M.,	*Salem, Wis.*
Longwell, Carl John,	*Chicago.*
Loynd, George A.,	*Mendon.*
Lyons, George John,	*Long Branch, N. J.*
Mackinson, John Charles,	*Pontiac.*
Mahoney, William Daniel,	*Chicago.*
McCormick, Ivor,	*Gibson City.*
McMaster, Oscar Fitzallen,	*Yoakum, Tex.*
Moore, Frank Benjamin,	*McGregor, Tex.*
Movius, William Godfred,	*Ledgwood, N. D.*
Murray, Joseph Lawrence,	*Cleveland, O.*
Nauman, Arthur Gottlieb,	*Chicago.*
Ostermeier, George Albert,	*New London, Wis.*
Ramsey, Elenzo H.,	*Baird, Tex.*
Ramsey, Elmer Hugh,	*Cottonwood, Tex.*
Ramsey, Stonewall J.,	*Cottonwood, Tex.*
Richter, Eva Ruth,	*Chicago.*
Rodenhauser, Wm. Robert, Ph.G. *Univ of Illinois),* 1900,	*Bloomington.*
Schulze, Elsie Elizabeth,	*Potsdam, Germany.*
Shand, George Jacob,	*Plainwell, Mich.*
Sharp, Charles Byron,	*Tolono.*
Sommerfield, Oscar Emil,	*Chicago.*
Stout, Louis Aurora,	*Saybrook.*
Vahue, Earl Olson,	*Allegan, Mich.*
Vercoce, Ernest Wycliffe,	*Mont Clare.*
Walsh, Richard Michael,	*Aurora.*
Welch, John,	*Kankakee.*
Wells, Samuel Scott,	*Montreal, Can.*
Wertzler, Charles Fred,	*Chicago.*
Whitbeck, Frederick Ambrose,	*Chicago.*
Wilson, George Henry,	*Ontario, Can.*

FRESHMAN CLASS

Ament, George Dunn,	*Yorkville.*
Autenreith, Bernard Bird,	*Fort Wayne, Ind.*
Bailey, Earl Root,	*River Forest.*
Bake, Clair,	*Red Oak, Ia.*
Baker, Grace,	*Chicago.*
Berry, Walter Howard,	*Rochelle.*

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Bott, Harry Seacord,	*Chicago.*
Breckenridge, James Edward,	*Rockford.*
Britt, Patrick Edward,	*Chicago.*
Bromund, Richard Max,	*Chicago.*
Campbell, James Alfred,	*Bangor, Mich.*
Clancey, Leon William,	*Plainwell, Mich.*
Clary, John Robert,	*Peoria.*
Comer, Charles Edgar,	*Vermont.*
Crandall, William Henry,	*Kempton.*
Darmer, John Albert,	*Champaign.*
Eisele, Charles Edward,	*Elgin.*
Eiser, Lee Earl,	*Rochelle.*
Fiebig, William Frederick,	*Portland, Ore.*
Flanigan, John Joseph,	*Temple Hill, Ia.*
Funston, George Edward,	*Cherokee, Ia.*
Gordon, Stephen Francis,	*Manistee, Mich.*
Gordon, William Lee,	*Helena, Mont.*
Hendricks, Roy,	*Pirlee, Ia.*
Hopkins, Hugo Benjamin,	*Chicago.*
Houston, George Russell,	*West Grand Rapids, Wis.*
Houston, Kenneth Ward,	*Beloit, Wis.*
Houston, Robert Braxton,	*West Grand Rapids, Wis.*
Hulam, Herman Harry,	*Chicago.*
Ivey, Maurice Hodge,	*Chicago.*
Kelly, Frank Hetherington,	*Chicago.*
Kerr, Norman LeRoy,	*Chicago.*
Kimmel, Nathan,	*Chicago.*
Krebs, William Aloysis,	*Chicago.*
Krog, Robert William,	*Chicago.*
La Due, John Byron,	*Allegan, Mich.*
Lancaster, Harvey Middleton,	*Chicago.*
Lewin, Edwin,	*Chicago.*
Logan, Thomas Henry,	*South Wayne, Wis.*
Marshall, Jay,	*Des Moines, Ia.*
McDonald, John,	*Salem, Wis.*
McDowell, Charles,	*Faulkton, S. D.*
McDowell, Elmer Newton,	*Woodstock.*
McKahan, James Edward,	*River Falls, Wis.*
Mindlin, Albert,	*Chicago.*
Moore, Vernon Alvin,	*Mt. Carroll.*
Neu, John,	*Philipsburg, Mont.*

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Nordgren, Robert Godfrey,	*Moline.*
Nugent, Clarence Conner,	*Chicago.*
O'Neil, Guy Edward,	*Canton, S. D.*
Peterson, David Albert,	*Muskegon, Mich.*
Pogue, James Chester,	*Maroa.*
Porterfield, William Roy,	*Traer, Ia.*
Rains, Roland Roderick,	*Sault Ste. Marie, Mich.*
Rotzoll, Paul A.,	*Chicago.*
Schroeder, Theodore,	*Chicago.*
Sepple, Charles Vicent,	*Chicago.*
Shaeffer, Simon Bertrof,	*Chicago.*
Shaw, Harry Valentine,	*Morrison.*
Sheppard, Ralph Thomas,	*Elgin.*
Sherrill, Charles McCurdy,	*Browning.*
Smith, Edward William,	*Centre, Tex.*
Smith, Frank Haworth,	*Dickinson, N. D.*
Smith, Irving Leland,	*Hospital.*
Smith, Orval Lynn,	*Chicago.*
Spare, Maurice Henry,	*Chicago.*
Stephenson, George,	*Apple River.*
Stevens, Arthur,	*Stevens Point, Wis.*
Stone, William Ferdinand,	*Chicago.*
Strain, Homer Birdell,	*Darlington, Ind.*
Thomas, James M.,	*Apple River.*
Valkenaar, Fred William,	*Bridgewater, S. D.*
Weeks, Edward George,	*Allegan, Mich.*
Weinfeld, Jacob,	*Chicago.*
Weisz, David,	*Chicago.*
Wood, Arthur La Monte,	*Wyocena, Wis.*
Wybranic, Peter,	*Chicago.*
Young, Arthur John Hellmuth,	*Chicago.*

SPECIAL

Frazee, David Lawrence, D.D.S. *(Columbia Dental School)*, 1897,	*Plymouth.*
Harris, Seldon Alexander, Ph.G. *(Univ. of Tenn.)*, 1895,	*Snyder, Tex.*
Lippert, Emma,	*Basel, Switzerland.*

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SCHOOL OF PHARMACY

SENIORS

Alkire, Louis Lambert,	*Chalmers, Ind.*
Ansorge, William Kilian,	*Green Bay, Wis.*
Bauer, August Harvey,	*Chicago.*
Beardsley, Carolyn Francis,	*Highland Park.*
Bush, Brian B.,	*Westfall, Ore.*
Calhoun, Hal Newton,	*Cairo.*
Charters, John Dixon,	*Ashton.*
Demes, Charles Albert,	*Chicago.*
Denis, Sidney Alvaro,	*Centralia, Wis.*
Dilley, George Mansfield,	*Shelbyville.*
Fritz, Oscar Albert,	*Chicago.*
Gharet, Ralph Roland,	*Birmingham, Ala.*
Grubb, Don Wiard,	*Galesburg.*
Hagemann, William Hermann,	*Quincy.*
Hatton, Henry Timothy,	*Montrose, Ia.*
Henke, Albert Philip,	*Aurora.*
Hironimus, Otto,	*Mt. Vernon, Ind.*
Hood, Harry Alling,	*Chicago Heights.*
Jeronimus, Henry Jurgen Huwald,	*Duluth, Minn.*
Justus, Samuel Vansant,	*Chicago.*
Kappus, John Martin,	*Chicago.*
Karlovsky, Emil Jan,	*Chicago.*
Koepsell, August John,	*Mayville, Wis.*
Kaller, Charles John,	*Chicago.*
Lawrence, Victor Emanuel,	*Chesterton, Ind.*
Marshall, Charles Stephen,	*Watonga, Okla.*
Meyer, Fred Hugo,	*Chicago.*
Meyer, Frank Joseph,	*Peoria.*
Mick, Carl Frederick,	*Neillsville, Wis.*
Moffit, Saint John,	*Fithian.*
Montgomery, Walter Raymond,	*Waterloo, Wis.*
Overton, Burtis Henry,	*Antioch.*
Pulford, George William,	*Savanna.*
Rettberg, Anton,	*Peoria.*
Rigg, Joe Griffith,	*Plankinton, S. D.*
Sanders, Edwin John,	*Fort Dodge, Ia.*
Schafer, Charles Henry,	*Marietta, O.*
Schmitt, Henry John,	*Chicago.*

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Shaymir, James,	*Chicago.*
Sheblessy, Michael Albert,	*Chicago.*
Shinnick, Joseph Richard,	*Watertown, Wis.*
Songer, Lloyd A.,	*Iuka.*
Sowka, Andrew William,	*Chicago.*
Stadelmann, Harry Edgar,	*Chicago.*
Storkan, Charles Nicholas,	*Wilber, Neb.*
Stulik, Henry,	*Chicago.*
Venn, Charles,	*Chicago.*
Vass, Fritz,	*Chicago.*
Walz, Fred Charles,	*Nashua, Ia.*
Withycombe, Harry,	*Corvallis, Ore.*
Zamentowsky, David,	*Chicago.*

JUNIORS

Albright, Guy Stanley,	*Chicago.*
Anderson, Carl Godfrey,	*Chicago.*
Atkinson, Rolly Darby,	*Converse, Ind.*
Bade, Walter Albert,	*Wausau, Wis.*
Barber, Elmer Clarence,	*Chicago.*
Beckwith, John Edward,	*LaGrange.*
Bergstedt, James Peter,	*Chicago.*
Berthold, Albert Charles,	*Aurora.*
Bottom, Centennial John,	*Sparta.*
Breithaupt, Bertram Louis,	*Peoria.*
Brown, Clyde Alan,	*Chicago.*
Brown, James Francis,	*Chicago.*
Chvala, Vincent Joseph,	*Chicago.*
Coffey, Patrick Frances,	*Chicago.*
Colby, Oliver Roy,	*Litchfield.*
Conitz, Leopold Alexander,	*Wanatah, Ind.*
Converse, Ralph Morris,	*Seymour, Ind.*
Corbett, Harry Joseph,	*Denver, Colo.*
Cozad, Delos,	*Decatur.*
Dickhut, Lawrence August,	*Quincy.*
Dolejsi, James Edward,	*Chicago.*
Donahue, Joseph Michael,	*Chatsworth.*
Dubski, Frank,	*Chicago.*
Dustin, Leslie Bertrand,	*Peoria.*
Eberley, Fred Hiram,	*Sterling.*
Edgar, Arthur Harris,	*Chicago.*

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Gelly, Robert, Jr.,	*Nokomis.*
Ginnsy, Leo Aloysius,	*Sublette.*
Goltz, John Theodore,	*Chicago.*
Gimker, Max,	*Chicago.*
Groer, Otto,	*Chicago.*
Guerten, Geo. Jacob Joseph,	*Madison, Wis.*
Hadley, Elmer Walter,	*Mt. Carmel.*
Hahn, Elmer Orville,	*Roberts.*
Halpert, Joseph David,	*Chicago.*
Harding, Frank Robert,	*Trivoli.*
Hards, Raymond Nelson,	*Grand Junction, Colo.*
Harnit, Shirley Lamar,	*Kankakee.*
Hartig, John Frederick,	*Peoria.*
Hartley, Henry Oliver,	*Astoria.*
Hawk, William Milton Eugene,	*Blue Island.*
Hearne, William Oscar,	*Carbondale.*
Higgins, Charles Louis,	*Oneida.*
Hill, Alvah Lane,	*Yorkville.*
Hill, Frederick George,	*Bellevue, O.*
Hjelte, John Ewald,	*Chicago.*
Horner, Charles Henry,	*Dixon.*
Huard, George Napoleon,	*Chicago.*
Hubbard, Winfield Scott,	*Grand Junction, Colo.*
Jacobs, Louis Goodman,	*Chicago.*
Jewett, Dexter Thomas,	*Waverly, Neb.*
Johnson, Philip Charles,	*South Platte, Colo.*
Johnson, Thure William,	*Chicago.*
Juers, Richard Henry,	*Wausau, Wis.*
Kann, Harry Henry,	*Chicago.*
Keusink, William Ben,	*Champaign.*
Kitch, Enos Holt,	*De Soto.*
Klune, Henry Bernhardt,	*Peoria.*
Knudson, Ellert George,	*Chicago.*
Koch, Oswin Fred William,	*Chicago.*
Leiner, William J.,	*Ottawa.*
Lindahl, Anton Emanuel, B.S. *(Augustana Coll.)*, 1902,	*Wakefield, Neb.*
Luken, Edward Emil,	*Chicago.*
Macham, Forrest David,	*Tecumseh, Mich.*
Masters, Richard Henry,	*Chicago.*
Mattix, Charles Edward,	*Duluth, Minn.*

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McMaster, Clyde Allen, B.S. *(Univ. of Neb.)*, 1901, *Pawnee City, Neb.*
Mick, John George, *Neillsville, Wis.*
Mitchell, William Lewis, *Chicago.*
Modaff, John Nick, *Aurora.*
Moore, Raymond Teller, *Yorkville.*
Moreland, Walter Henry, *Metropolis.*
Moss, Harry Semple, *Clinton, Ky.*
Nadherny, Louis James, *Chicago.*
Nelson, Clarence Harry, *Chicago.*
Nimmer, Arthur William, *Chicago.*
Oeth, Anton Joseph, *Dubuque, Ia.*
O'Hara, Guy, *Paris.*
Ouda, William, *Chicago.*
Parker, George Theodore, *Chicago.*
Parker, John Kumler, *Griggsville.*
Partington, Elmer, *Chicago.*
Porter, George Melville, A.B. *(Roger Williams Univ.)*, 1901, *Columbia, Tenn.*
Powell, Charles Edward, *Bangor, Mich.*
Pyne, David Joseph Earl, *Chicago.*
Reichardt, Herman Albert, *Chicago.*
Ryland, Joseph Norvell, A.B. *(Bethel Coll.)*, 1899, *Russelville, Ky.*
Sandstrom, George, *Chicago.*
Sankiewicz, Chester Aloyze, *Chicago.*
Schart, Ernest Eugene, *Chicago.*
Scheffel, Louis, *Chicago.*
Schultejann, Bernard, *Chicago.*
Schumm, Hugo Julius, *La Porte, Ind.*
Schwanke, Louis Reinhold Arulf, *Hochheim, Wis.*
Senger, Peter Xavier, *Danville.*
Slater, Charles, *Chicago.*
Slauson, Harry Eugene, *Denver, Colo.*
Spealman, Harvey L., *Chadwick.*
Spiker, Joseph Thomas, *Chicago.*
Stahl, August Ferdinand, *Chicago.*
Stahlfeld, Leo George, *Chicago.*
Stuchlik, Edward, *Chicago.*
Timmermier, John George, *Fremont, Neb.*
Ulrich, Murble Booker, *Vermilion.*

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Watson, Harvey Andrew,	*Antioch.*
Webster, Richard Chauncey,	*Canton.*
Wenban, Frank James,	*Lake Forest.*
Westall, William Arnot,	*N. Dak.*
White, George Edwin,	*Chicago.*
White, Wallis Bernard,	*Chicago.*
Wilson, Arthur Harrington,	*San Angelo, Tex.*
Witgen, John Peter,	*Chicago.*
Woods, John Edward,	*Chicago.*
von Zelewski, Frank George,	*Chicago.*

SPECIALS

Bigham, Byrd,	*Arcadia, Wis.*
Denig, Augustus McClintock,	*Elmhurst.*
Reinhardt, Carl Frederick,	*Roberts.*

PREPARATORY SCHOOL

Akers, Nellie,	*Urbana.*
Allinson, Ora,	*Champaign.*
Anderson, George Perry,	*Ohio.*
Anderson, Harry,	*Chicago.*
Anderson, Robert Paul,	*Onarga.*
Anderson, Thomas Nickel,	*Ohio.*
Anthony, Arthur,	*Tiskilwa.*
Arden, Harry Hayes,	*Homer.*
Ballard, Charles Roy,	*New Boston.*
Bandy, Claude William,	*Danville.*
Baron, Meddie Wilfred,	*St. Anne.*
Bean, Elsie Margeret,	*Blue Mound.*
Bedwell, Walter Leroy,	*Kemp.*
Besele, Edward Louis,	*Peters.*
Becker, Adam,	*Urbana.*
Beyer, George Frederick,	*Cullom.*
Black, William Zachariah,	*Urbana.*
Black, Grace Josephine,	*Urbana.*
Black, Walter Robert,	*Champaign.*
Blair, Eugene Kennett, Jr.,	*Waverly.*
Boone, Walter Guthrie,	*Chrisman.*
Born, Ora Littlefield,	*Champaign.*
Bovick, Roley,	*Dwight.*
Bower, George Joy,	*Tolono.*

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Braddock, Ralph Carmon,	*Decatur.*
Breedlove, Charles,	*Pekin.*
Brooks, Verna,	*Macon.*
Bronson, Eugene Victor,	*Urbana.*
Brower, Irene,	*Urbana.*
Brown, Harry Alonzo,	*Memphis, Mo.*
Buck, Turney English,	*Springfield.*
Bundy, Clyde Talbot,	*Iroquois.*
Burrill, Irene Elsa,	*Urbana.*
Burwash, Florence Lerria,	*Champaign.*
Busey, Frank Augusta,	*Urbana.*
Busey, Simeon Harrison,	*Urbana.*
Cairns, William Robert,	*Hebron.*
Campbell, Charles Harvey,	*Danville.*
Canaday, Ora Luther,	*Ogden.*
Cavanaugh, Bert Martin,	*Kewanee.*
Cavazos, Enrique,	*Saltillo, Mex.*
Cessna, Albert Bergess,	*Armstrong.*
Chesnut, Jennie Stewart,	*New Holland.*
Clark, Roscoe Perry,	*Chicago.*
Clarkson, May,	*Carthage, Mo.*
Cohns, Charles Leonard,	*Hammond, Ind.*
Conard, Harriete Zoe,	*Monticello.*
Constant, Frank Semple,	*Buffalo.*
Constant, Lyman John,	*Illiopolis.*
Corzine, Jessie Minor,	*Stonington.*
Cox, James Francis,	*Urbana.*
Cristy, Harold,	*McHenry.*
Daft, Lawrence Harvey,	*Canton.*
Dahl, Ralph Hulfton,	*Racine, Wis.*
Davidson, Nell Jeannette,	*Champaign.*
De Long, Alton,	*Foosland.*
Denne, Alfred Eugene,	*Gibson City.*
Divan, Walter Rutledge,	*Burr Oak.*
Dollus, Edgar,	*Big Rock.*
Downs, Roscoe Forest,	*Forsyth, Mo.*
DuBois, Howard,	*Cobden.*
Dunlap, Albert Menzo,	*Savoy.*
Dunn, Harold Houghton,	*Moline.*
Durfey, Frank Aletha,	*Tolono.*
Dunseth, Claude,	*Lincoln.*

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Dyniewicz, Mathew January,	*Chicago.*
Ellison, Charles Courtney,	*Marine.*
Emerson, Ralph Waldo,	*Caledonia.*
English, Jesse Thad,	*Isabel.*
Everheart, Leon,	*Urbana.*
Everspacher, Jacob Christian,	*Pana.*
Fairbanks, Roland William,	*Bradford.*
Fallon, Clara May,	*Champaign.*
Fillwebber, Clarence John,	*Marengo.*
Finley, George Alva,	*Sugar Grove.*
Finley, Mary Mildred,	*McClure.*
Fishback, William Murphy,	*Marshall.*
Fletcher, Marion,	*Dalton City.*
Forester, Robert Jackson,	*Du Quoin.*
Francisco, Elmer Lynn,	*Ringwood.*
Freeman, Perry John,	*Georgesville, O.*
Gamble, Fred Grant,	*Champaign.*
Genders, Dean Stanley,	*Bloomington.*
Gibson, Miles Otto,	*Urbana.*
Gillmore, James Marion,	*Urbana.*
Good, Verna Mae,	*Neoga.*
Goodman, Ernest Albert,	*Sadorus.*
Graves, John Thomas,	*Tonica.*
Green, Bessie Rose,	*Ivesdale.*
Greer, Ellen,	*Urbana.*
Greer, Henry,	*Urbana.*
Greer, James Richard,	*Urbana.*
Grimes, Roy,	*Urbana.*
Gross, Alfred Otto,	*Atwood.*
Hall, Ward Elmer,	*LaMoille.*
Hamilton, Julius Rugg,	*Champaign.*
Hardin, Harry Harlan,	*Homer.*
Harper, Bertha May,	*Granville.*
Hartenbower, Rollin Foster,	*Tonica.*
Hauter, Lena Belle,	*Tiskilwa.*
Head, Frank William,	*Rock Island.*
Heinemann, Chester Cleveland,	*Dewey.*
Hess, Lottie,	*Philo.*
Hill, Lucy Belle,	*Urbana.*
Hillis, Archie Edward,	*Chicago.*
Hillyer, George Clinton,	*Brooklyn.*

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Hirsch, Stanton Pike,	*St. Louis, Mo.*
Hogan, Michael Edward,	*Champaign.*
Holmes, Thomas Kerr,	*Kankakee.*
Hubbart, Gurth Searle,	*Champaign.*
Hueckel, Albert,	*Caseyville.*
Hughes, Josephine Catherine,	*Champaign.*
Hughes, Chester Arthur,	*Urbana.*
Hughes, Harold DeMotte,	*Antioch.*
Hutchinson, Ella May,	*Odell, Neb.*
Hutchinson, David Edward,	*Champaign.*
Hyde, Wilbur Gilpin,	*Rising.*
Jackson, Meta Jeannette,	*Danville.*
Jones, Susie Effie,	*Secor.*
Kamm, Carl Frederick.	*Atwood.*
Kaup, Oscar Ben,	*Springfield.*
Karpen, Isadore Julius,	*Chicago.*
Kellum, Charles Samuel,	*Sycamore.*
Ketchum, Harold,	*Champaign.*
Kidder, Annie Sirdinia,	*Farmington.*
King, Emma Lucy,	*Fairborough.*
Kirkpatrick, Glenn,	*Urbana.*
Lanferman, Walter,	*Chicago.*
Legg, Clark Laurence,	*Pontiac.*
Leka, George Washington,	*Mechanicsburg.*
Leka, James,	*Mechanicsburg.*
Little, Frank,	*Tolono.*
Logan, Clarence Chester,	*Flora.*
Long, Leon Root,	*Amboy.*
Love, Norma Catherine,	*Danville.*
Lucas, Leonora,	*Urbana.*
McAlister, Paul Franklin,	*Champaign.*
Macalister, Robert Norman,	*Chicago.*
McGrath, Sylvester Joseph,	*Warrensburg.*
McKenna, John Edward,	*Chicago.*
McKinney, Harold Burritt,	*Urbana.*
McLean, Walter Randolph,	*Macomb.*
McMahon, Anna Laura,	*Champaign.*
McManis, James William,	*La Moille.*
Manley, Emerson Binney,	*Kurnool, India.*
Martin, Clarence Allen,	*Atwood.*
Martin, Fred Raymond,	*Toluca.*

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Meharry, Charles Leo,	*Tolono.*
Merritt, Harold Emmett,	*Salem.*
Miller, Chester Branch,	*Champaign.*
Montgomery, George Newburgh,	*Chicago.*
Moore, Arthur,	*Assumption.*
Moore, Samuel Burns,	*Louisville.*
Morrison, Elbert Warren,	*Mahomet.*
Moss, Charles Taylor,	*Urbana.*
Murphy, John Ray,	*Pontiac.*
Naftel, George,	*Crowley, La.*
Noble, Thomas Dee,	*Stuttgart, Ark.*
Noyes, Caleb Kirby,	*St. Louis.*
O'Connor, Tim L,	*Hanson.*
Ollrich, John Jacob,	*Papineau.*
O'Neal, Donald Bryant,	*Arnold.*
Oldham, Clyde Carleton,	*Urbana.*
Olson, Grant,	*White Heath.*
Padfield, Frank Wilbur,	*Carlinville.*
Parr, Elizabeth,	*Urbana.*
Peck, Harry Spencer,	*Mahomet.*
Peine, Adela Lydia Caroline,	*Minier.*
Perkins, Grace Niles,	*Urbana.*
Peterson, Frank Oscar,	*Donovan.*
Phares, Lloyd Abner,	*Clinton.*
Phillippi, Jay Simpson,	*Champaign.*
Poorman, Alfred Peter,	*Altamont.*
Prendergast, James Joseph,	*Chicago.*
Pumphrey, Morris,	*Heyworth.*
Putney, Charles Robert,	*Serena.*
Rains, Guy Hanley,	*Rock Island.*
Raymond, Jesse Leroy,	*Kaneville.*
Rector, Loma Marshall,	*Longview.*
Redman, Murray,	*Martinsville.*
Remmers, Rudolph Jacob,	*Minonk.*
Rhoads, Robert Blaine,	*Urbana.*
Rice, Roscoe Daniel,	*Gillespie.*
Riordan, George Simeon,	*Springfield.*
Ritter, Lorah Katharine,	*Villa Grove.*
Robertson, Roy Clifton,	*Peoria.*
Robinson, Henry Hallock,	*Urbana.*
Robinson, Robert Burch,	*Newman, Ga.*

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Roll, Alva Eston,	*Longview.*
Routledge, Thomas Elmer,	*Newman.*
Rugg, Arthur Edward,	*Urbana.*
Russell, George Washington,	*Fairmount.*
Rutherford, Evah Lucinda,	*Oakland.*
Schafmayer, Albert James,	*Scales Mound.*
Schreiber, Otto William,	*Chicago.*
Schulte, Loretta,	*Hopedale.*
Schwartz, Chester,	*Carbondale.*
Simer, Jerome Kennith,	*Urbana.*
Smith, Bertha Elizabeth,	*Urbana.*
Smith, Wallace Revere,	*Cameron.*
Spain, Kate,	*Benton.*
Spear, John Frank,	*Mason City.*
Stahl, William Lincoln,	*Chicago.*
Staker, Ray Montgomery,	*Clayton.*
Stanner, William Guy,	*Mayview.*
Stebbins, Roy,	*Summer Hill.*
Stiles, Abbie,	*Fisher.*
Stoltey, Hazel Dott,	*Champaign.*
Stowell, Charles Edward,	*Tampa, Fla.*
Strong, Willis Valentine,	*Grand Ridge.*
Swartz, Earl William,	*Urbana.*
Swartz, Jake Carl,	*Mansfield.*
Swartz, Wilmot,	*Galesville.*
Tenheaff, John Alexander,	*LaPrairie.*
Thompson, William Alvin,	*Apple River.*
Thornton, Ella,	*Sadorus.*
Tinsley, William Pierce,	*Philo.*
Uppendahl, Frank Henry,	*Dalton City.*
Warne, John Henry,	*Batavia.*
Warner, James Madison,	*Chicago.*
Washburn, Charles Alva,	*Fairmount.*
Watson, Ralph Angelo,	*Aguas Calientes, Mex.*
Watson, William Minton,	*Aguas Calientes. Mex.*
Webster, Robert Lorenzo,	*Urbana.*
Wells, Verna Ellsworth,	*Urbana.*
Wells, Minnie Opal,	*Urbana.*
White, Alta Ida,	*Danville.*
White, Earl Archibald,	*Loonlake.*
Wier, Samuel,	*Birmingham.*

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Wierman, William Henry,	*Lostant.*
Wilson, Roy,	*Foosland.*
Winders, Bess May,	*Urbana.*
Wood, Walter Ray,	*Urbana.*
Woodin, Ernest Clair,	*St. Joseph.*
Yates, Thomas Monroe,	*Griggsville.*
Youle, John Wilbur,	*Scales Mound.*
Zeller, John George,	*Bushnell.*
Zink, Herbert Charles,	*St. Clair, Mich.*
Zurhorst, Mary Louisa,	*Champaign.*

SPECIALS IN MUSIC

Armstrong, Maude Agnes,	*Champaign.*
Bassett, Breta Pearl,	*Leverett.*
Brooks, Frances,	*Urbana.*
Cohen, Julius Bernstein,	*Urbana.*
Craig, Hazel Ione,	*Champaign.*
Crawford, Helen Ethel,	*Champaign.*
Dallenbach, Lenore Emma,	*Champaign.*
Dillon, Edna Ethel,	*Scottland.*
Dunlap, Isabelle Jennie,	*Savoy.*
Eyestone, Bertha Josephine,	*Champaign.*
Fletcher, Ola,	*Ridgefarm.*
Freeman, Artemesia Jesseman,	*Urbana.*
Hecox, Elizabeth Belle,	*Sidney.*
Hill, Josephine Lowell,	*Fillmore.*
Hirzel, Mabel May,	*Mt. Pleasant, Mich.*
Huff, Florence Lenore,	*Urbana.*
Hutchinson, Myrtle Anna,	*Champaign.*
Karnopp, Esther May,	*Champaign.*
Kern, Etta Lavern,	*Ridgefarm.*
Kerr, George,	*Urbana.*
Kerr, Josephine,	*Urbana.*
Kise, Stella,	*Champaign.*
Mattis, Ida Leverine,	*Champaign.*
Meneley, Hazel Dell,	*Urbana.*
Piper, Grace Edith,	*Cisco.*
Renner, Julia Elizabeth,	*Urbana.*
Riley, Alice,	*Champaign.*
Robinson, Florence Elinor,	*Urbana.*
Shaw, Leona Isadora,	*Newman.*

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Shaw, Lottie J,	*Champaign.*
Siegel, Meta Lena,	*Champaign.*
Stevenson, Bessie Katherine,	*Urbana.*
Tierney, Jeannette Belle,	*Champaign.*
Trust, Gertrude Ethel,	*Philo.*
Wallace, Cora Elizabeth,	*Champaign.*
Wells, Lillian Anna,	*Urbana.*
Wilson, Iva Pearle,	*Champaign.*
Young, Grace Sadie,	*Bondville.*

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SUMMARY OF STUDENTS—1902-1903

	Men.	*Women.*	*Total.*
GRADUATE SCHOOL	79	14	93
UNDERGRADUATE COLLEGES—			
Seniors	121	77	198
Juniors	179	100	279
Sophomores	204	75	279
Freshmen	372	136	508
Specials	146	85	231
	1022	473	1495
SPECIALS IN AGRICULTURE	128		128
SPECIALS IN HOUSEHOLD SCIENCE		10	10
SUMMER TERM	132	96	228
COLLEGE OF LAW—			
Third year	25	2	27
Second year	32		32
First year	30		30
Specials	21		21
	108	2	110
COLLEGE OF MEDICINE—			
Seniors	211	31	242
Juniors	141	19	160
Sophomores	131	11	142
Freshmen	120	10	130
Specials	13	2	15
	616	73	689
SCHOOL OF DENTISTRY—			
Seniors	43	1	44
Juniors	54	3	57
Freshmen	78		78
Specials	2	1	3
	177	5	182
SCHOOL OF PHARMACY—			
Seniors	50	1	51
Juniors	114		114
Specials	3		3
	167	1	168
PREPARATORY SCHOOL	189	88	277
	2618	762	3380
Deduct counted twice	62	30	92
Total in University	2556	732	3288

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DEGREES

Commencement Day, June 11, 1902, degrees were conferred as follows:

A.B.

Anna Wilhelmina Ahrens.
Will John Bader.
Florence Jennie Beebe.
William Lee Bennett.
Arthur Clinton Boggess.
Oliver Carter Boggs.
William George Bopp.
Annie Maple Broadhead.
John Henry Breitstadt.
Martin Denman Brundage.
Emma Buerkin.
Ralph Parmer Bundy.
Lettie Evelyn Burrill.
Charles Nickerson Cadwell.
Arlo Chapin.
Emma Alberta Clark.
Elsa Jeanette Coar.
Jay Sidney Condit.
William Adelbert Cook.
William Crocker.
Mary Golden Danely.
Ruby Thorne DeMotte.
Harry Samuel DeVelde.
Ethel Irene Dobbins.
Sarah Pauline Dole.
William Joseph Donoghue.
Charlotte Enid Draper.
Edwin Lyon Draper.
Elmer Tryon Ebersol.
Fred Peter Falkenberg.
John Andrew Freese.
Hugh Regnier Fullerton.
Lewis Theron Gallaher.
Myrtle Gayman.
Aletha Gilkerson.
Belle Irene Gillespie.
Mary Emma Goff.
Archie James Graham, M.D., 1902.
Carl Frederick Hagedorn.
Arthur Raymond Hall, LL.B., 1901.
Chester Ellis Harris.
Thomas Luther Harris.
Lucius Romaine Harshman.
Jacob Harold Heinzelman.
Alexander Henderson.
Francis Whitson Higgins.
George Jacob Hinshaw.
Charles Phelps Hunter.
Leonard Ward Ingham.
Harold Demming James.
J Claude Jones.
Warren Jones.
Stewart William Kincaid.
Lee Irving Knight.
Anna Koehn.
Reuben Nelson Kofoid.
John Conrad Lehner.

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Justa Morris Lindgren.
George Taylor Lloyd.
Jessie Isa Lummis.
Otto Lawrence Luther.
Harriet Elizabeth McCully.
Mary Ola McGinnis.
Karl Franklin McMurry.
John Victor Mapes.
James Walter Martin, Jr.
Mary Neff.
Carter Norris.
Rena May Odell.
Lewis Omer.
Albert Nelson Oyen.
Henrietta Betsey Pitts.
Francis Benjamin Plant.
Clara Beck Reasoner.
George I Reeves.
Anna Bethiar Riley.
Mary Annette Rolfe.
Alice Rose.
Luther Vernon Rose.
George Roy Samson.
Tillie Joe Schumacher.
Roy Smith.
Otto Christopher Steinmayer.
John Pogue Stewart.
Helen Mary Taylor.
Frank Linn Thompson.
Irving Mark Western.
James Dunwell White.
Edith Ursula Whitehouse.
Elrick Williams.
Ferdinand Zipf.

B.S.

Fred Albert Alspach.
Guy Bernard Barackman.
John Barr.
Herbert Bassett.
John Schuyler Bates.
William Franklin Borton.
William Curtis Carter.
Elwyn Lorenzo Clarke.
Frank Bernard Collis.
Thomas Philip Cowley.
Ralph Edwin Cunningham.
Louis Charles Dadant.
Dwight Stout Dalbey.
Clair Fred Drury.
William Niel Dunning.
Edward Cary English, Jr.
George Cassius Fairclo.
James Moore Farrin.
William Otis Farrin.
Ernest Browning Forbes, B.S.,'97.
Oscar Jefferson Francis.
James William Frazier, Jr.
Thomas Irvin Fullenwider.
Robert Bruce Fulton.
Edwin Gardner Greenman.
Max Ross Hanna.
John James Harman.
Samuel Chase Higgins.
Fred Vollentine Johnson.
John Peter Johnson.
Lee Jutton.
Charles Howard Kable.
Edward Oris Keator.
Arthur Rolland Kelly.
Hugo Lund.
Carl Lee Lundgren.
Harry McCarthy.
Charles Wesley Malcolm.
Albert Carey Martin.
Robert Clayton Matthews.
Madison Hoge Mount.
Lawrence Gilbert Parker.
Edwin Lindsey Poor.
Hiram Franklin Post.

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Harry Ashton Roberts.
Charles Leonard Samson.
Theodore Marcus Sanders.
Donald Hubbard Sawyer.
Harry Disbro Scudder.
Robert Philip Shimmin.
John McBeath Snodgrass.
Floyd Ludwig Swanberg.
McDonald Thompson.
George William VanMeter.
Ernest Carl Frederick Von der Lippe.
Leslie Abram Waterbury.
Francis George Wendell.
Charles Dietrich Wesselhoeft.
Milton James Whitson.
Nathan Wilkinson.
Thomas Wilson.
Solomon Wolff.
Herbert Henry Wolleson.

LL.B.

Oliver Carter Boggs.
Harry Bernard Boyer.
John Henry Braden.
David Gemmell Cairns.
Irwin Lee Fuller.
Richard Pratt Garrett.
Samuel Kelso Hughes.
Guy Raymond Jones.
Henry Leonard Jones.
Wesley Edward King, A.B., 1897.
James Thompson Kingsbury, A.B., 1899.
Brown Irwin McIlvaine.
Robert William Martin, A.B. 1901.
Thomas Henry Miller.
George Henry Moore.
Carl Edmunds Sheldon, A.B., 1899.
Nathaniel Stern.
William Bowen Stewart.
William Francis Woods, A.B., 1900.
Ervin Evermont Wyne.

B.L.S.

Lillian Belle Arnold.
Adaline Maitland Baker.
Edith Clark, A.B., 1899.
Margaret Dunbar, B.L. *(Monmouth Coll.)*, 1896.
Mabel Louise Geiger.
Laura Russell Gibbs.
Edna Lucy Goss.
Marjorie Graves.
Harriet Emma Howe.
Jennie Alice Hulce, Ph.M. *(Hillsdale Coll.)*, 1899.
Esther Anna Maxwell.
Ada Patton.
Arthur Bourne Smith, Ph.B., *(Wesleyan Univ.)*, 1900.
Ellen Garfield Smith.
Ida Mary Spaulding.
Lavinia Steele.

A.M.

Arthur Timothy Bell, A.B., 1901.
Harry Norman Gridley, A.B., 1901.
John Madison Martin, A.B., 1896.
John Ezra Miller, A.B. *(Univ. of Mich.)*, 1894.
Arthur Raymond Hall, A.B., 1902; LL.B., 1901.

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M.S.

Frederick Gordon Bonser, B.S., 1901.
Wilber John Fraser, B.S., 1893.
Merritt Harper, B.S. *(Ohio State Univ.)*, 1901.
Timothy Mojonnier, B.S., 1901.
Otis Orion Stanley, B.S., 1901.

M.E.

Albert St. John Williamson, B.S., 1898.

C.E.

William Davis Barber, B.S., 1892.

At the Commencement of the College of Medicine, May 20, 1902, degrees were conferred as follows:

M.D.

William Hubert Aaron.
Jacob L. Albright.
Frederick Herrick Aldrich.
Byron Jonathan Arnold, A.B., M.D.
Joseph Thomas Asbury.
William E. Baker, M.D.
Annie Esther Barron.
Philip Henry Bartholomew.
Bashshur Ilias Bashshur, A.B.
William Henry Bayer.
J. Albert Beam, A.M.
Leslie Walter Beebe, A.B., M.D.
William Henry Belknap, M.D.
Louis Jerome Bennett.
Clyde William Bice.
James Gordon Bonine, B.S., M.D.
Frank Runcorn Borden, Ph.G.
Erling Albert Bothne.
Frank Ellis Brawley, Ph.G.
Jacob Breid, A.B.
Mrs. Maria Breid.
Charles Chester Benedict.
Ernest L. W. Brown, M.D.
Roy E. Brown.
Josiah Scott Brown.
Bernard Brownstein.
Corydon DeKalb Bundy, A.B.
Clarence Martin Burnham.
Mrs. Elizabeth Brothers Burns.
Floyd William Burns.
Clark Leon Cain.
Frederic Alexander Campbell.
Joseph Howard Campbell.
James Huston Carrico, A.B.
John Henry Cleary.
E. J. Clemons.
Lintsford B. Coates, Jr.
Henry Aaron Cobb.
Philo Bierce Conant.
J. Frank Cornell.
Edward Augustine Corcoran.
Louis Franklin Curtis.
Norman Olaf Dalager.
Charles Johnston Davis.
Edward Griffith Davis, M.D.
Harriet March Day.
Joseph Dean, Jr.
Henry Charles Deetken.
Charles Eugene Dike.
George Charles Dittmann, Ph.G.
Charles Adolph Dorn.

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Delbert Frederic Dumas.
Bohumir Dvorsky.
A. Vernon Emerson.
M. Manly Enos, M.D.
Henry H. Everett.
Victor Peter Faeth.
Alford Jay Farnham.
Oliver James Fay, B.S.
Evelyn Battelle Fisher, Ph.B.
Wilbur Maynard French.
George Ambrose Fritch.
Henry H. Frudenfeld.
Charlemagne V. Fukala.
Francis Elmer Fuller.
Robert Vincent Gallagher.
Emmett Amasa Garrett.
John Dempsey Garrett, A.B.
Joseph Addison Gibbs.
Charles Edward Glynn.
Paul Ernest Grabow.
Archie James Graham.
Margaret Stough Grant, B.A., M.D.
Mary Emily Green.
Ralph Ruston Green.
John Otto Groos.
John Macaulay Gunning.
Clyde Denny Gulick, B.S.
Louis August Hahn.
Lewis Joseph Hammers.
William Arthur Harroun.
Robert Eugene Hathaway.
Benja Hubert Haynes.
William Henry Heller.
Carl Theodore Helmey.
Maurice LeRoy Henderson.
Charles Warren Herrington.
J. Calvin Hicks.
William Crawford Hill.
Mrs. Emma Linton Hill, M.D.,
Harry G. Hinckley, M.D.
William Allen Hollis, Ph.B.
John Musser Holmes.
F. Clifford Hoopes.
Freeman Harding Hornibrook.
Glenn Atherton Howard.
Harry Welland Howard.
John Fred Howard. M.D.
David Lancaster Hyde.
Charles Andrew Inks.
Garling U. Jamison.
Paul Wardner Johnson.
Wilbur Vogt Johnson.
Willard Bruce Johnson.
Alfred Bernard Jordan.
Niels Anderson Kaa.
George Peter Kaemmerling.
George W. Kimball.
Frank Aylsworth King.
John P. Kirch.
Frederick Raymond Kitterman.
P. Gad Kitterman.
Walter Eugene Kittler,
A. Louise Klehm.
Ellis Gise Klingler.
Thomas Blackburn Knox.
Fred Baldwin Kurtz.
Sherman Morris Kyes.
Charles J. Lahodney.
Charles Sumner Lane.
Carl Ludwig Larson.
Frank James Leavitt.
Florence Patrick Leehey.
Ernest Hartley Little.
Charles Richard Lockwood.
Carl Albin Lofgren, A.B.
Lew Morgan Lowe.
Norbert Julius Lowry.
Martin Jacob Lunn.
George Elmer Lyon.
Mrs. Katherine Winifred McCarthy.

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William Thomas McCarty.
Bernard James McConvill.
Benjamin Robert McGrath.
Charles John McGuire.
Arthur Cecil McIntire.
I. Newton Chas. McKinney, Oph.B.
Benjamin F. McNeil.
Max Edward Magnus.
Thomas Francis Manning.
Emilie Rebecca Maris.
Martin M. Martinson, M.D.
Stella C. Martinson, M.D.
Emil John Merki.
George Harris Merryman.
Judson Melvin Meyers.
Charles Arthur Miller.
George Louis Miller.
Robert Williamson Miller.
William Frank Mitchell, B.S.
John Roe Montgomery.
Harlon Justin Morrill.
Robert Wilson Morris, A.B.
Francis Thomas Murphy.
Anton T. Nadig.
George A. Nickelsen.
Samuel Edward Overmass.
Orville Perry Overton, A.B.
Carl Ottersbach.
Charles Eugene Parker.
William Madison Patterson.
John Morris Perry.
Charles Herbert Phifer.
Floyd Phillips, Ph.G.
William Andrew Plice, Ph.G.
Maxwell Philip Podgur.
Edwin William Poinier.
Charles Arthur Potter.
Herbert William Powers.
Henry Herman C. Rodefeld.
J. J. Rooks, M.D.
Romeo Richmond Root.
George Ernest Rosenthal.
Edward Cornelius Ruge.
Carl Gustaf S. Rydin.
Alexander C. Sabin, Jr.
Henry Fenno Sawtelle.
Paul Henry Schaefer.
John Chandler Sessions.
Howard O. Shafer.
William Owen Sheller.
R. O. Shelton.
J. C. Fred Siegfriedt.
Henry Herbert Slater.
L. Rock Sleyster.
R. Borden Smiley.
Clyde Livingstone Smith.
George W. Smith.
Ulysses Grant Souder.
Katherine Vance Standly.
Allen Chubb Steckle.
Joseph Louis Stettauer.
Samuel Lorenzo Stevens.
Wayne L. Stillman, D.V.M.
Robert Earl Stoops.
Charles David Strong.
Peter H. Sunde, M.D.
Charles Irwin Taylor.
William Harper Thomas.
Elmer Whitfield Tolley, Oph.D.
Charles Jepthah Trail.
James Tyvand.
Thomas S. Venard.
Walter Thomas Venn.
John George Wachowski, Ph.G.
Wilbur Myron Walliker.
Gerrit William Walvoord.
Otto George Waskow, Ph.G.
Ben Perley Weaver, B.S.
Jeannette C. Welch, Ph.D.
Axel Frederick W. Werelius.
Peter Duncan Whyte.

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Jesse Bertram Wiley.
John Miller Wilson, B.L.
William Thomas Winters.
David Earle Yantis.
William Yeates.
Charles Christian Young, Ph.G.
Nacooche Freeman Young.
William Edward Zilisch.
George Guido Zoehrlaut.

Dr. Howard C. Crutcher, *ad eundem.*

At the Commencement of the School of Pharmacy, April 24, 1902, degrees were conferred as follows:

PH.G.

Carl Elwood Bourne.
Gustav Adalbert Brenke.
Harry Rollins Deland.
Otto John Dewitz.
Walter Frank Engel.
Jacob Theodore Fawcett.
Edward Nicholas Fernholz.
Philip Joseph Forbrich.
Guy Gore Fox.
William Benjamin Freeman.
Charles Matthias Friesenecker.
Peter MacMullen Fulton.
Frank Herman Heidbreder.
Harry Mathew Hibbe.
Richard Herbert Hopkins.
Guy Weedman Houseman.
Walter Valentine Keller.
Harold Brooke Kemp.
Theodore John Knaak.
Ernest William David Laufer.
Lewis Melvin Martz.
George Allan McCormick.
Harry Thomas Moyer.
Boyden Nims.
Frank Elbert Pierce.
Max Otto Rolff.
Hans Carl Curt Rommel.
Arthur Theodore Schleder.
Charles Henry Schmidt.
Walter Schmitt.
Albertus Seltzer.
Brazill Oscar Smith.
Frank George Douglas Smith.
Clyde Mason Snow.
Charles Gottlieb Stegmayer.
Chester Arthur Ullman.
Frederick Douglas Garnet Walker.
John Christopher Wheatcroft.
Adolph George Wirth.

PH.C.

Robert Clyde Smith.

At the Commencement of the School of Dentistry, May 3, 1902, degrees were conferred as follows:

D.D.S.

Carroll Breed Abbott.
Harry Walter Adams.
Arthur E. Alther.
Arthur L. Atwood.
Louis E. Bake.
Arthur C. Bawden.
Henry William Benson.
J. Clarence Black.

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Walter P. Cameron.
Marion F. Carl.
Rollo G. Chamberlin.
Ernest G. Cummings.
Charles Lyle Daniels.
Robert Patterson Donaldson.
Aaron J. Dubin.
Arthur H. Fales.
Arthur F. Flachtemeier.
John Clair Granger.
Harry W. Grubb.
David R. Hawes.
Charles W. Hillier.
William W. Homan.
Ernest Byron Kelly.
Howard F. Lichtenberg.
Jay L. Means.
Frank Raymond Merz.
John Maxwell Murphy.
John R. Murphy.
Robert J. McGinnis.
Claud D. Owens.
William L. Pipkin.
Frederick H. Ratcliff.
Charles Vernon Rice.
Ray N. Rork.
Martin J. Ruzicka.
Devillo Eddie Taft.
Charles H. Tigner.
Marie R. Urbanek.
William J. Walk.
Alvin S. Wasser.

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HOLDERS OF SCHOLARSHIPS AND COMMISSIONS

HONORARY SCHOLARSHIPS

Christian,	Logan, Chester R.,	*Edinburg.*
Cook,	Abbott, Alice,	*Chicago.*
McDonough,	Provine, Loring H.,	*Macomb.*
McDonough,	Hampton, Ethel A.,	*Macomb.*
Schuyler,	Work, Edna M.,	*Rushville.*

STATE SCHOLARSHIPS

Adams,	Stone, Charles N.,	*Quincy.*
Adams,	Hewes, Floyd S.,	*Quincy.*
Alexander,	Slocum, Mary J.,	*Loda.*
Alexander,	Warder, Walter B.,	*Cairo.*
Alexander,	Hildebrandt, H. C. M.,	*LaSalle.*
Bond,	Morey, Henry H.,	*Greenville.*
Bond,	Schulte, Charles R.,	*Vandalia.*
Boone,	Dake, Leroy G.,	*Harvard.*
Brown,	Bard, Jacob W.,	*Quincy.*
Bureau,	Gillham, Philip D.,	*Princeton.*
Bureau,	Young, Dwayne G.,	*Lewistown.*
Carroll,	Renner, Edwin T.,	*Lanark.*
Cass,	Gallaher, Geo. P.,	*Mt. Palatine.*
Cass,	Denny, Christina,	*Lincoln.*
Champaign,	Booker, Helen E.,	*Champaign.*
Champaign,	Chapin, Lucy,	*Champaign.*
Champaign,	Moss, Myrtle F.,	*Urbana.*
Champaign,	Woodin, Earl B.,	*St. Joseph.*
Christian,	Evans, Kenneth N.,	*Taylorville.*
Christian,	Wetzel, Nellie,	*Stonington.*
Christian,	Adams, Leason H.,	*Taylorville.*

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Clinton,	Seymour, Arthur P.,	*Thomasboro.*
Coles,	Taylor, Elsie M.,	*Tuscola.*
Coles,	Belting, Flora P. M.,	*Mattoon.*
Cook, 1st District,	Berger, John M.,	*Dolton.*
Cook, 1st District,	Berolzheimer, Teresa,	*Chicago Heights.*
Cook, 2d District,	Powles, Carrie A.,	*Chicago.*
Cook, 3d District,	Nielsen, Joseph N.,	*Chicago.*
Cook, 3d District,	McRobie, Isabel,	*Chicago.*
Cook, 3d District,	Gunn, Alexander H.,	*Evanston.*
Cook, 5th District,	Bagley, Helen A.,	*Oak Park.*
Cook, 6th District,	Christiansen, Johanna C. M.,	*Chicago.*
Cook, 7th District,	Hoff, Edna D.,	*Chicago Heights.*
Cook, 7th District,	Kasten, Frederick W.,	*Dolton Station.*
Cook, 7th District,	Franklin, Howard B.,	*Harvey.*
Cook, 11th District,	Bradshaw, Jessie I.,	*Chicago.*
Cook, 11th District,	Donders, Charlotte M.,	*Chicago.*
Cook, 12th District,	Dolkart, Leo,	*Chicago.*
Cook, 13th District,	Braun, Walter C. E.,	*Chicago.*
Cook, 13th District,	Augustinus, Paul,	*Evanston.*
Cook, 14th District,	Thayer, William S.,	*Chicago.*
Cook, 19th District,	Dickey, Cromwell B.,	*LaGrange.*
Cook, 19th District,	Coleman, George H.,	*Chicago.*
Cook, 21st District,	McCarthy, John J.,	*Chicago.*
Cook, 21st District,	Mueller, Walter H.,	*Chicago.*
Cook, 23d District,	Klein, David,	*Chicago.*
Cook, 31st District,	Hachmeister, Henry W.,	*Chicago.*
Crawford,	Janssen, Otto,	*Champaign.*
Crawford,	Hildebrandt, Theophil H.,	*LaSalle.*
Cumberland,	Stephenson, Lewis A.,	*Redmon.*
DeKalb,	Eide, Torris,	*Lee.*
DeWitt,	Noe, Samuel R.,	*Milmine.*
DeWitt,	Marvel, John E.,	*Waynesville.*
Douglas,	Knapp, Noah,	*Hindsboro.*
Douglas,	Williams, Mary Edith,	*Newman.*
DuPage,	Barton, Jesse B., Jr.,	*Hinsdale.*
Edgar,	Dayton, Laura,	*Paris.*
Edgar,	Boone, Charles G.,	*Chrisman.*
Edgar,	Cusick, John F.,	*Chrisman.*
Edwards,	Burggraf, Carl I.,	*Tuscola.*
Edwards,	Waddell, James V.,	*Taylorville.*
Fayette,	Hoffman, Frank G.,	*Ramsey.*

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Ford,	Anderson, Albin,	*Paxton.*
Franklin,	Dayton, Susan L.,	*Paris.*
Fulton,	Swart, Harmon D.,	*Lewistown.*
Gallatin,	Smith, Valentine,	*Urbana.*
Gallatin,	Dyer, Wilson K.,	*Winchester.*
Grundy,	Rose, Fred W.,	*Mazon.*
Grundy,	Sachse, William,	*Morris.*
Hamilton,	Fairweather, Charles A.,	*Hoodville.*
Hancock,	Worrell, Joseph C.,	*Chili.*
Hancock,	Baxter, Miles E.,	*Nauvoo.*
Henry,	Randall, Frank A.,	*Cambridge.*
Iroquois,	Crandall, Grace E.,	*Mendota.*
Iroquois,	Smith, Henry W.,	*Arcola.*
Jackson,	Scherer, Josephine,	*Murphysboro.*
Jasper,	Dickerson, Oliver M.,	*West Liberty.*
Jasper,	Johnson, Lotta L.,	*Newton.*
Jefferson,	Hinman, John H.,	*Mt. Vernon.*
Jersey,	Caton, Charles H.,	*Ottawa.*
Jersey,	Flowers, Roy W.,	*Quincy.*
Jo Daviess,	Leverton, Ernest R.,	*Warren.*
Jo Daviess,	Sype, George,	*Fairbury.*
Jo Daviess,	Bench, Alfred R.,	*Galena.*
Johnson,	Hook, Henry H.,	*Vienna.*
Johnson,	Snow, Lloyd A.,	*Vienna.*
Kane,	Hinman, Glidden,	*Dundee.*
Kankakee,	Zartman, Lester W.,	*Grant Park.*
Kankakee,	Perreault, Morris,	*St. Anne.*
Kendall,	Freebern, Walter H.,	*Plano.*
Knox,	Sussex, James W.,	*Abingdon.*
Lake,	Ray, Howard A.,	*Libertyville.*
LaSalle,	Eustis, Laura M.,	*Ottawa.*
LaSalle,	McDougall, Agnes,	*Ottawa.*
Lawrence,	Archer, Charles L.,	*Carmi.*
Lee,	Perry, Alphonso L.,	*Cornell.*
Logan,	Camp, Cara L.,	*Lincoln.*
McHenry,	Stevens, Lucia A.,	*Marengo.*
McHenry,	Renick, Edward A.,	*Woodstock.*
McLean,	Barnhart, Charles A.,	*Mansfield.*
McLean,	Moore, Francis G.,	*Bloomington.*
Macon,	Davis, Cleon L.,	*Mt. Zion.*
Macon,	Crawford, David M.,	*Champaign.*

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Macon,	Botts, Carroll E.,	*Warrensburg.*
Macoupin,	Turner, Charles P.,	*Hillsboro.*
Macoupin,	Dillavou, John M.,	*DeLand.*
Madison,	Stocker, Clarence H.,	*Highland.*
Marion,	McCullough, John F.,	*Centralia.*
Marion,	Hewes, Clarence A.,	*Quincy.*
Marshall,	Munsen, Andrew,	*Ohio.*
Marshall,	Dewey, Homer H.,	*Henry.*
Mason,	Warnock, Arthur R.,	*Mason City.*
Massac,	Slater, Willis A.,	*Fairbury.*
Menard,	Sims, Charles E.,	*Lincoln.*
Mercer,	Drury, Ralph S.,	*New Boston.*
Mercer,	Edwards, John I.,	*Aledo.*
Monroe,	McNeill, Roscoe P.,	*Greenville.*
Montgomery,	DeMotte, Roy J.,	*Urbana.*
Montgomery,	Chacey, Anna O.,	*Hillsboro.*
Montgomery,	Saathoff, George W.,	*Litchfield.*
Morgan,	Kennedy, Helen T.,	*Jacksonville.*
Moultrie,	Rose, Webster B.,	*Windsor.*
Moultrie,	Davidson, Dora,	*Sullivan.*
Ogle,	Richey, John J.,	*Polo.*
Ogle,	Andrew, Charles E.,	*Paines Point.*
Peoria,	Burkhalter, Wayne E.,	*Peoria.*
Peoria,	Engstrom, Roy V.,	*Peoria.*
Peoria,	Burkhalter, Ralph M.,	*Peoria.*
Perry,	Brookings, Clara A.,	*DuQuoin.*
Perry,	Gambach, Jacob,	*Hecker.*
Piatt,	Dawson, Charles H.,	*Bement.*
Piatt,	Holcomb, Clarence E.,	*Milmine.*
Piatt,	Davison, Margaret W.,	*Monticello.*
Pike,	McDonough, Adelaide B.,	*Winchester.*
Putnam,	Mills, Floyd E.,	*Mt. Palatine.*
Putnam,	Hopkins, Ruby C.,	*Granville.*
Randolph,	McIntire, Mamie M.,	*Sparta.*
Rock Island,	Corrin, William G.,	*Hillsdale.*
Rock Island,	Dart, Whitman,	*Rock Island.*
Rock Island,	Eckhardt, William G.,	*Buffalo Prairie.*
St. Clair,	Richeson, Virginia C.,	*East St. Louis.*
St. Clair,	Hertel, Garfield E.,	*Freeburg.*
Saline,	Webber, William B.,	*Urbana.*
Sangamon,	Betts, David R.,	*Springfield.*

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Sangamon,	Robinson, Ward R.,	*Springfield.*
Schuyler,	Huff, Nolan H.,	*Center.*
Scott,	Goodhead, George E.,	*Winchester.*
Stark,	Kunkle, Roy D.,	*Peoria.*
Stark,	Robinson, Candace I.,	*Granville.*
Stephenson,	Clendenen, Lois G.,	*Cairo.*
Stephenson,	Phillips, Nelson C.,	*Damascus.*
Tazewell,	Armeling, Carl E.,	*Mason City.*
Union,	Roy, Howard M.,	*Anna.*
Vermilion,	Crosthwait, George A.,	*Urbana.*
Vermilion,	Smith, Edwin R.,	*Hope.*
Vermilion,	Nydegger, John,	*Danville.*
Warren,	Day, Winfield S.,	*Roseville.*
Wayne,	Callan, John A.,	*Gifford.*
White,	App, Charles M.,	*Carmi.*
Williamson,	Gore, Adolph,	*Marion.*
Winnebago,	Johnson, Albert M.,	*Kishwaukee.*
Winnebago,	Kimball, Robert H.,	*Rockford.*
Woodford,	Applegate, Frank G.,	*Atlanta.*

AGRICULTURAL SCHOLARSHIPS

Adams,	Cattron, Kie,	*Fairview.*
Adams,	Newcomb, William W.,	*Champaign.*
Alexander,	Hines, Elmer G.,	*Huey.*
Bond,	Gaiser, Joseph E.,	*Charleston.*
Boone,	Newell, Allie J.,	*Clinton.*
Brown,	Mobley, William D.,	*Mt. Sterling.*
Brown,	Jennings, John C.,	*Mound Station.*
Bureau,	Wilson, Leroy C.,	*Princeton.*
Bureau,	White, Jessie H.,	*Princeton.*
Bureau,	Dunbar, Harry B.,	*Princeton.*
Calhoun,	Kirkpatrick, Carlton A.,	*Mayview.*
Carroll,	Alcott, Leonard C.,	*Fairview.*
Cass,	Sinclair, Lawrence,	*Ashland.*
Champaign,	Howe, Ralph B.,	*Urbana.*
Champaign,	Pratt, Frank H.,	*Staley.*
Christian,	Garwood, Herman E.,	*Stonington.*
Christian,	Allen, Edward R.,	*Pana.*
Clark,	Shinn, James R.,	*Mattoon.*
Clark,	Bronson, George D.,	*Urbana.*

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Clay,	Spencer, Clark E.,	*Canton.*
Clinton,	Eisenmayer, Augustus,	*Trenton.*
Coles,	Shinn, William R.,	*Mattoon.*
Cook, 1st District,	Bonner, John G.,	*Milburn.*
Cook, 1st District,	Armstrong, Joseph A.,	*Bondville.*
Cook, 2d District,	Varner, Willie T.,	*Indianola.*
Cook, 2d District,	Parker, Chester L.,	*Atkinson.*
Cook, 3d District,	Frans, Rans,	*Kirkwood.*
Cook, 4th District,	Schoonhoven, Thomas L.,	*Chana.*
Cook, 5th District,	Hertz, Henry L., Jr.,	*Chicago.*
Cook, 6th District,	White, William E.,	*Milburn.*
Cook, 6th District,	Hertz, Martin P.,	*Chicago.*
Cook, 7th District,	Scudder, Charles R.,	*Chicago.*
Cook, 7th District,	Logeman, Louis V.,	*Chicago.*
Cook, 8th District,	Verhalen, George F.,	*Elmhurst.*
Cook, 9th District,	Rehm, Jacob A.,	*Chicago.*
Cook, 10th District,	Woodin, Dwight E. J.,	*St. Joseph.*
Crawford,	Apple, John E.,	*Robinson.*
Crawford,	Musgrave, Oris,	*Robinson.*
Cumberland,	Peddicord, Raymond N.,	*Marseilles.*
Cumberland,	Voris, Louis K.,	*Neoga.*
DeKalb,	White, Fred H.,	*Long View.*
DeWitt,	Capen, Bernard C.,	*Bloomington.*
DeWitt,	Thorp, Claude,	*Wapella.*
Douglas,	Goodspeed, Wilber F.,	*Tuscola.*
Douglas,	Pfeifer, George L.,	*Arcola.*
Du Page,	Wilson, John A.,	*Ava.*
Edgar,	Gillespy, George A.,	*Paris.*
Edgar,	Galeener, George E.,	*Vienna.*
Edwards,	Marriott, Richard A.,	*Urbana.*
Effingham,	Spitler, John C.,	*Montrose.*
Effingham,	Caldwell, Harry,	*East Peoria.*
Fayette,	Tenney, Walter E.,	*Bloomington.*
Fayette,	Wolf, Louis A.,	*Farina.*
Ford,	Cothern, Robert P.,	*Guthrie.*
Franklin,	Lucas, Morgan,	*Easton.*
Franklin,	Anders, Joseph O.,	*Newark.*
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Gallatin,	Kelley, Emery,	*Altona.*
Greene,	Melvin, Leon R.,	*Greenfield.*
Grundy,	Burbank, Harry F.,	*Woodstock.*
Grundy,	Cation, James L.,	*Williamsfield.*
Hamilton,	Draper, Turner B.,	*Ellis Mound.*
Hamilton,	Chambers, Ralph E.,	*Sadorus.*
Hancock,	Mustain, Glen T.,	*Sciota.*
Hardin,	Warner, Earl A.,	*Marengo.*
Henderson,	Conard, Clyde,	*Monticello.*
Henderson,	Dull, Charley B.,	*Tennessee.*
Henry,	Allison, Harry O.,	*Alpha.*
Henry,	Miller, Harry A.,	*Galva.*
Iroquois,	Mann, Charles J.,	*Gilman.*
Iroquois,	Lindsay, Edward E.,	*Onarga.*
Jackson,	Wells, Fred M.,	*Moline.*
Jackson,	Deason, F. E.,	*Murphysboro.*
Jasper,	Clark, James R.,	*Bloomington.*
Jefferson,	Musgrove, Fred G.,	*Vermont.*
Jefferson,	Moss, Charley N.,	*Mt. Vernon.*
Jersey,	Massie, Stuart M.,	*Colusa.*
Jersey,	Huffman, James R.,	*Colfax.*
Jo Daviess,	Johnstone, Guy C.,	*Bloomington.*
Johnson,	Wright, Herman F.,	*Vienna.*
Johnson,	Heaton, Calvin F.,	*New Burnside.*
Kane,	Gilkerson, Thomas J.,	*Hampshire.*
Kane,	Davis, Albert E.,	*Batavia.*
Kankakee,	Porter, Edward A.,	*Momence.*
Kankakee,	Snyder, Alden E.,	*Kankakee.*
Kendall,	McClelland, Robert A.,	*Yorkville.*
Kendall,	Ocock, Charles A.,	*Marengo.*
Kendall,	Peterson, Tobias,	*Newark.*
Knox,	McKeighan, James L.,	*Yates City.*
Knox,	Bridge, Glenn F.,	*Galesburg.*
Lake,	White, William E.,	*Milburn.*
La Salle,	Haight, Samuel J., Jr.,	*Mendota.*
La Salle,	Center, Orlo D.,	*Grand Ridge.*
La Salle,	Funk, Frank F.,	*Ottawa.*
La Salle,	Kenyon, Eli D.,	*Athens.*
Lawrence,	Readhimer, Jerome E.,	*Champaign.*

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Lawrence,	Primm, Jay O.,	*Athens.*
Lee,	Bryan, Louis L.	*Dixon.*
Livingston,	Rothgeb, Claude J.,	*Milford.*
Livingston,	Sinclair, Irwin S.,	*Cornell.*
Logan,	Crocker, Paul H.,	*Springfield.*
Logan,	Murphy, Joseph W.,	*Elkhart.*
McDonough,	Miner, Aaron W.,	*Adair.*
McDonough,	Webb, Rollie C.,	*Good Hope.*
McHenry,	Redpath, Charles L.,	*Marengo.*
McLean,	Brand, George W.,	*Bloomington.*
McLean,	Funk, Marquis De L.,	*Shirley.*
Macon,	Brown, Marshall A.,	*Decatur.*
Macoupin,	Long, Roy H.,	*Lexington.*
Madison,	Pitts, George W.,	*McLean.*
Marion,	Swayze, Fred E.,	*Salem.*
Marion,	Wilson, Roy L.,	*Dix.*
Marshall,	Betzelberger, George J.,	*Delavan.*
Marshall,	Dysart, Leslie C.,	*Granville.*
Mason,	Baldwin, Frank,	*Ipava.*
Mason,	Cross, William R.,	*Mason City.*
Massac,	Clarke, James W.,	*Sciota.*
Massac,	Roberts, Owen O.,	*Joppa.*
Menard,	Culver, Carl A.,	*Athens.*
Menard,	Kincaid, James E.,	*Athens.*
Menard,	Culver, Harry W.,	*Athens.*
Mercer,	Candor, Davise B.,	*Seaton.*
Monroe,	McCarty, John,	*Arcola.*
Monroe,	Wagoner, Joseph H.,	*Normal.*
Montgomery,	Meharry, Edwin T.,	*Tolono.*
Montgomery,	Paisley, Calvin D.,	*Irving.*
Morgan,	O'Neal, Fred R.,	*Arnold.*
Morgan,	Brown, Franklin S.,	*Hillsboro.*
Moultrie,	Cresap, Dwight R.,	*Cushman.*
Ogle,	Price, Arnold G.,	*Oregon.*
Peoria,	Corzine, Roy A.,	*Stonington.*
Peoria,	Turner, Howard A.,	*Butler.*
Perry,	Braden, Clarence A.,	*Cutler.*
Perry,	McLaughlin, W.,	*Campbell Hill.*
Piatt,	Wise, Leonard E.,	*Cerro Gordo.*
Pike,	Berry, Frank S.,	*Pleasant Hill.*

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Pope,	Sherman, Bliss,	*Sullivan.*
Pulaski,	Joiner, Charles H.,	*Polo.*
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Randolph,	Webster, John W.,	*Pleasant Hill.*
Richland,	Constant, Frank S.,	*Buffalo.*
Rock Island,	Nichols, John S.,	*Hamlet.*
St. Clair,	Eidmann, Gustav H.,	*Mascoutah.*
St. Clair,	Garwood, Frank S.,	*Stonington.*
St. Clair,	Robison, Frank W.,	*Tremont.*
Saline,	Johnston, Ora B.,	*Lexington.*
Saline,	Smith, Alfred G.,	*Hope.*
Sangamon,	Hayes, Augustus W.,	*Pleasant Plains.*
Sangamon,	Odiorne, Alfred,	*Springfield.*
Schuyler,	Bracken, W. A.,	*Putnam.*
Scott,	Anderson, Leslie L.,	*Summer Hill.*
Scott,	McLaughlin, Earl G.,	*Winchester.*
Shelby,	Peek, Will R.,	*Tower Hill.*
Stark,	Krapf, Henry A.,	*Peotone.*
Stephenson,	Kostenbader, Edwin E.,	*Damascus.*
Tazewell,	Allen, Fred E.,	*Delavan.*
Union,	Leipold, Melchor,	*Mt. Carmel.*
Vermilion,	Fairchild, Asa R.,	*Snider.*
Wabash,	Sterl, John W.,	*Maud.*
Warren,	Pitts, Ralph L.,	*McLean.*
Warren,	Crouch, Samuel,	*Kirkwood.*
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Washington,	Hinkley, George M.,	*DuBois.*
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Wayne,	Williams, Andrew P.,	*Rockford*
White,	Brearly, W. E.,	*Rockford.*
Whiteside,	Merriam, Clarence L.,	*Whiteside.*
Will,	Brown, Asa B.,	*Elwood.*
Williamson,	Thompson, Albert,	*Carbondale.*
Winnebago,	Tulloch, Warren M.,	*Rockford.*
Woodford,	Fleming, Robert H.,	*Eureka.*

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Champaign,	Barr, Susan J.,	*Urbana.*

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Coles,	Blair, Sara L.,	*Champaign.*
DeWitt,	Miller, Nellie A.,	*Urbana.*
DeWitt,	Bonar, Daisy M.,	*Urbana.*
Douglas,	Wardall, Ruth A.,	*Tuscola.*
Douglas,	Blackburn, Infelice,	*Champaign.*
Edgar,	Carson, Luvilla B.,	*Champaign.*
Effingham,	Reeves, Fanny S.,	*Champaign.*
Ford,	Lindley, Etheldred F.,	*Urbana.*
Fayette,	Renfrew, Marie C.,	*Urbana.*
Henderson,	Crouch, Ruth V.,	*Kirkwood.*
Iroquois,	Truman, Edna,	*Urbana.*
Kane,	Newman, Mary E.,	*Elgin.*
Lake,	Hoagland, Jennie M.,	*Elgin.*
Logan,	Tilton, Nellie Edith,	*Urbana.*
McHenry,	Turner, Clara L.,	*Hebron.*
McLean,	Nelson, Charlotte B.,	*Bloomington.*
Macon,	McCann, Jessie S.,	*Champaign.*
Madison,	Riehl, Anna,	*Alton.*
Ogle,	Linn, Margaret B.,	*Byron.*
Piatt,	Olson, Blenda,	*Urbana.*
Piatt,	Miller, Daisy M.,	*Urbana.*
Stephenson,	Hunt, Agnes,	*Ridott.*
Vermilion,	Bond, Luella M.,	*Champaign.*
Vermilion,	Peacock, Lottie B.,	*Urbana.*
Winnebago,	Wollaver, Jennie E.,	*Rockford.*

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Howard Meek Roy.

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Lieutenant Colonel..... J. F. Duffy, Jr.
Major 1st Battalion..... B. H. Prater.
Major 2nd Battalion..... F. W. Rose.
Captain and Adjutant..... E. R. Hayhurst.
Battalion Adjutant (1st B.) (1st Lieut.).....R. H. Post.
Battalion Adjutant (2nd B.) (1st Lieut.).... A. J. Reef.
Sergeant Major..... H. M. Roy.
Color Sergeant.....W. C. Bradbury.
Chief Trumpeter..... L. H. Maxfield.
Drum Major.....D. A. Parish.
Sergeant Major (1st B.).....E. T. Renner.
Sergeant Major (2nd B.)..... H. F. Godeke.

Company A—Captain, C. Apple; First Lieutenant, N. McMillan; Second Lieutenant, F. H. Kneeland; First Sergeant, D. H. Brush, Jr.; Sergeants, H. F. Wright, A. L. Perry, W. B. Warder, G. Sype; Corporals, C. H. Seymour, D. A. Abrams, E. C. Converse, A. B. Dorman, H. S. Green, O. Janssen.

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Company C—Captain, H. W. Whitsitt; First Lieutenant, C. C. Wiley; Second Lieutenant, C. A. Rose; First Sergeant, W. S. Day; Sergeants, F. W. Cutler, J. E. Dunn, A. B. Shipman, H. C. Wood; Corporals, B. A. Gulick, W. A. Martin, A. B. Roy.

Company D—Captain, H. J. Quayle; First Lieutenant, R. E. Travis; Second Lieutenant, E. J. Ford; First Sergeant, C. Conard; Sergeants, H. K. Collins, J. M. Dillavou, F. W. Hillman, G. J. Mautz; Corporals, C. H. Caton, F. Cresap, C. A. Harris, L. S. Keeler.

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Company F—Captain, G. A. Schmidt; First Lieutenant, J. H. Galeener; Second Lieutenant, C. W. Rich; First Sergeant, W. H. Eiker; Sergeants, C. L. Camp, W. W. Clay, E. R. Smith, J. R. Powell; Corporals, A. Gore, W. J. Healey, E. A. Renich, A. F. Triebel.

Company G—Captain, H. M. Price; First Lieutenant, E. L. Garnett; Second Lieutenant, H. B. Murphy; First Sergeant, C. B. Clark; Sergeants, L. E. Engle, H. S. Mitchell, W. A. McCully, C. M. Nuckolls; Corporals, E. Anders, C. K. Brydges, C. E. Hawley, J. Lucas, S. J. McGrath, C. R. Pierce.

Company H—Captain, F. T. Cavanor; First Lieutenant, F. S. Hadfield; Second Lieutenant, A. P. Standard; First Sergeant, F. P. Johnson; Sergeants, C. E. Armstrong, G. R. Bascom, C. A. Braden, G. Hinman; Corporals, R. W. Boston, H. S. Hazen, A. Sommers.

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